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Originals

A Taxonomic Study of the Genus *Campylotropis* (Leguminosae) II

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In this second part of this paper, the species from No. 13 to No. 25 are prepared. A new combination and two new status are proposed in this part. The references cited in this paper will be listed in the part three.

Key words: *Campylotropis*, classification, distribution, Leguminosae.

13. **Campylotropis fulva** Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 426 (1912) [Type: China. Yunnan. Mile as "Meng-tze". A. Henry 9689A (K holo.)]; C.Y.Wu & al., Index Fl. Yunnan. **1**: 574 (1984); P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 28 (1987), & in Fl. Reip. Pop. Sin. **41**: 100 (1995).
[Figs. 25a, 26A]

Lespedeza fulva (Schindl.) H.Lév., Cat. Pl. Yun-Nan 158 (1916).

A shrublet or shrub; young stems densely yellowish-velutinous. Leaves with a distinct rachis; rachis 2–10 mm long. Stipules 3.5–6 mm long, ca. 1 mm wide. Petioles 0.4–2 cm long, densely yellowish-velutinous. Leaflets coriaceous, narrowly ovate to ovate or narrowly oblong to oblong, obtuse and mucronulate at the apex, obtuse or rounded at the base, upper surface with dense very minute patent hairs (puberulous), lower surface densely ascending hairy; terminal leaflets 2.5–5 cm long, 1–2.5 cm wide. Stipels absent. Inflorescences 6–12 cm long, often paniculate; rachis with patent short hairs and glandular hairs. Bracts 1.5–2 mm long. Pedicels ca. 3 mm long, densely ascending short hairy mixed with glandular hairs. Bracteoles ca. 1 mm long. Calyx with dense appressed short hairs and sparse glandular hairs; tube ca. 1.5 mm long; lobes narrowly triangular, ca. 2.5 mm long. Corolla purple; standard elliptic, obtuse at the apex, 9–9.5 mm long (including ca. 1.2 mm long claw), ca. 5 mm wide; wings ca. 8 mm long (including ca. 2.2 mm long claw), ca. 2.6 mm wide; keel-petals ca. 13.2 mm long (including ca. 2.2 mm long claw). Androecia ca. 10 mm long, vexillary stamen connate to staminal tube for about one-third of its length. Gynoecia ca. 11 mm long; ovary ca. 1.5 mm long; style ca. 9.2 mm long. Pods obliquely elliptic, appressed short hairy.

Specimen examined: CHINA. **Yunnan**. Mengzi (A. Henry 9689A, K–holotype).

Distribution. China (Yunnan). (Fig. 24f in part I)

This species is known only from the type specimen collected from Mengzi in southeast Yunnan. The raceme of this species resembles that of *Campylotropis argentea*, and the vegetative features somewhat resembles those of C. *hirtella*. *Campylotropis argentea*, however, has no glandular hairs on the racemes, and C. *hirtella* has deltoid to ovate leaflets and more hirsute stems.

14. **Campylotropis grandifolia** Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 346 (1912) [Type: China. Yunnan. Mile as "Mi-lê". A. Henry 9888 (A syn.; CAL, MO isosyn.); loc. cit. A. Henry 9890 (K syn.)]; C.Y.Wu & al., Index Fl. Yunnan. **1**: 574 (1984). [Figs. 25b, 26B]

A shrub, usually ca. 150 cm high; young stems distinctly quadrangular, sparsely appressed short hairy. Leaves with a distinct rachis; rachis 7–12 mm long. Stipules 4–5 mm long, ca. 1 mm wide. Petioles dorsally angled, often narrowly winged along both sides, 2–4 cm long, with dense appressed short, hairs. Leaflets coriaceous, ovate to elliptic, obtuse or retuse and mucronulate at the apex, obtuse or rounded at the base, upper surface glabrous, lower surface sparsely appressed or ascending hairy; terminal leaflets 3–8 cm long, 1.5–4.5 cm wide. Stipels absent. Inflorescences subdensely flowered, 3–5 cm long, often paniculate; rachis with subdense appressed short hairs. Bracts 1.5–2 mm long. Pedicels 6–8 mm long, subdensely covered in appressed or ascending short hairs. Bracteoles 0.8–1 mm long. Calyx densely covered with appressed short hairs; tube ca. 2 mm long; lobes narrowly triangular, 3–4 mm long. Corolla purple; standard elliptic, obtuse at the apex, 13–14 mm long (including ca. 1.8 mm long claw), ca. 7 mm wide; wings ca. 12 mm long (including claw ca. 3 mm long claw), ca. 4 mm wide; keel-petals 16–17 mm long (including ca. 3 mm long claw). Androecia ca. 13 mm long, vexillary stamen connate to staminal tube for about one-fourth of its length. Gynoecia ca. 14 mm long; ovary ca. 2.5 mm long; style 11–11.5 mm long. Pods ovate, obtuse at the apex, appressed short hairy, 6–9 mm long, 3–5 mm wide.

Specimens examined: CHINA. **Yunnan**. Mile as "Mi-lê" (A. Henry 9888, A–syntype; CAL, LE, MO–isosyntype); loc. cit. (A. Henry 9890, K–syntype).

Distribution. China (Yunnan). (Fig. 31a)

Known only the type specimen collected from Mile in southeast Yunnan. Although winged petioles and distinctly angled young branches are also observed in *Campylotropis trigonoclada* and *C. henryi*, this species easily recognized by the quadrangular branches and lack of glandular hairs in the inflorescences.

15. **Campylotropis griffithii** Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 343 (1912) [Type: Bhutan as "Boutan". Griffith 1909 (BM holo.)]; Grierson & Long, Fl. Bhutan **1**(3): 682 (1987). [Figs. 27a, 28A]

Lespedeza griffithii (Schindl.) H.Ohashi in J. Jpn. Bot. **43**: 205 (1968), & in H.Hara, Fl. East. Himal. **2**: 66 (1971).

Campylotropis macrostyla (D.Don) Schindl. var. *griffithii* (Schindl.) H.Ohashi in J. Jpn. Bot. **49**: 44 (1974), **syn. nov.**

A shrub; young stems with dense appressed hairs. Leaves with a rachis; rachis 0.8–6 mm long. Stipules 1–4.5 mm long, 0.6–1 mm wide. Petioles 0.6–2.4 cm long, covered with dense appressed short hairs. Leaflets subcoriaceous, obovate to oblong, retuse and mucronulate at the apex, obtuse or cuneate at the base, upper surface glabrous, lower surface appressed hairy; terminal leaflets 1.2–3.5 cm long, 0.7–2 cm wide. Stipels absent. Inflorescences subdensely flowered, 1–2 cm long; rachis and pedicels with dense appressed or ascending short hairs and sparse glandular hairs. Bracts 0.8–1 mm long. Pedicels 4–8 mm long, densely appressed or ascending short hairy mixed with glandular hairs. Bracteoles 0.5–1 mm long. Calyx with dense appressed short hairs and sparse glandular hairs; tube 2–2.5 mm long; lobes narrowly triangular, 2–3 mm long. Corolla purple; standard elliptic, obtuse at the apex, 11–12 mm long (including ca. 1.5 mm long claw), ca. 6.5 mm wide; wings 11–12 mm long (including ca. 2.5 mm long claw), ca. 4.5 mm wide; keel-petals ca. 15 mm long (including ca. 2.3 mm long claw). Androecia 11.5–12 mm long, vexillary stamen connate

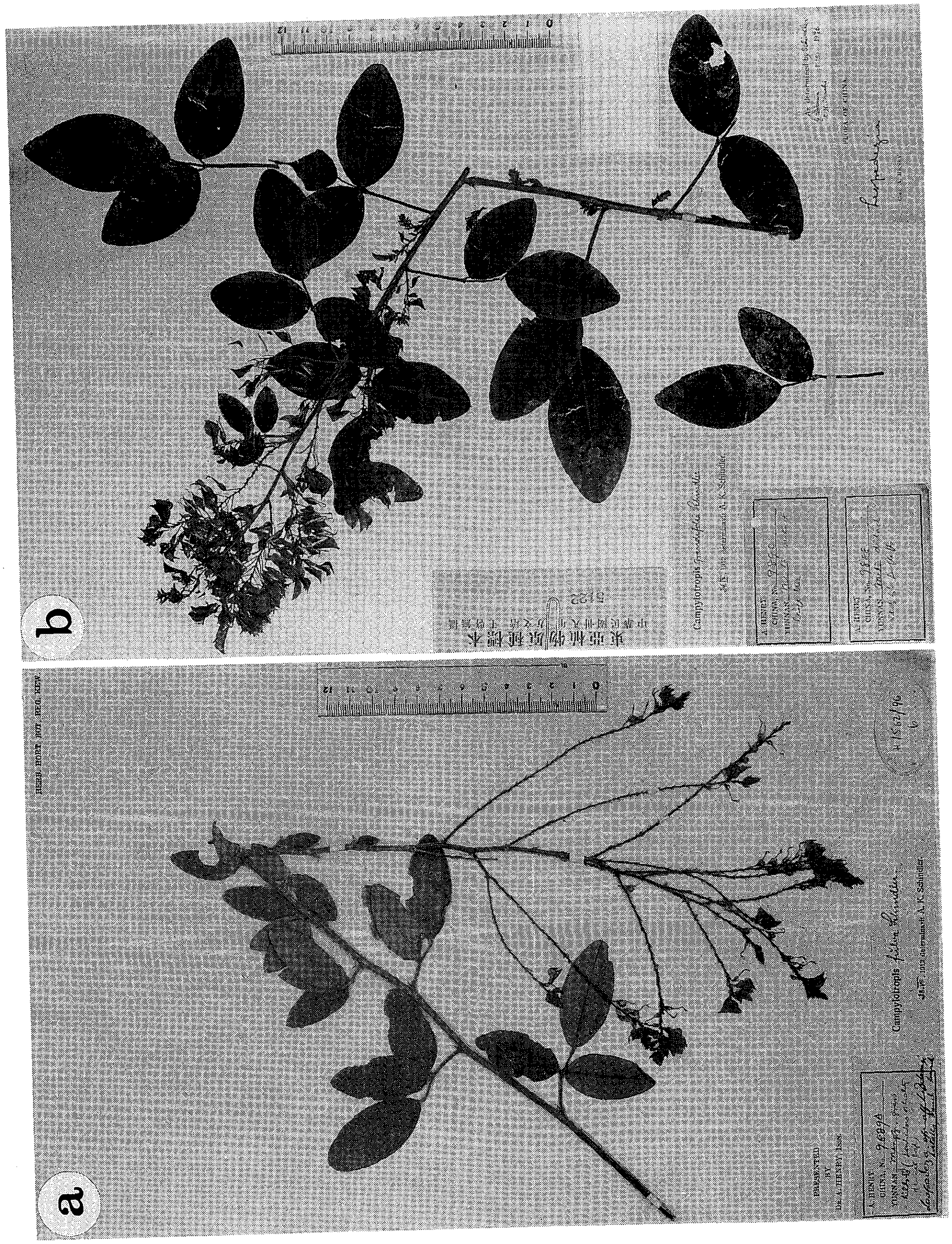

Fig. 25. a: *Campylotropis fulva* Schindl. (voucher specimen: Henry 9689A, K). b: *C. grandifolia* Schindl. (Henry 9888, 9890, A).

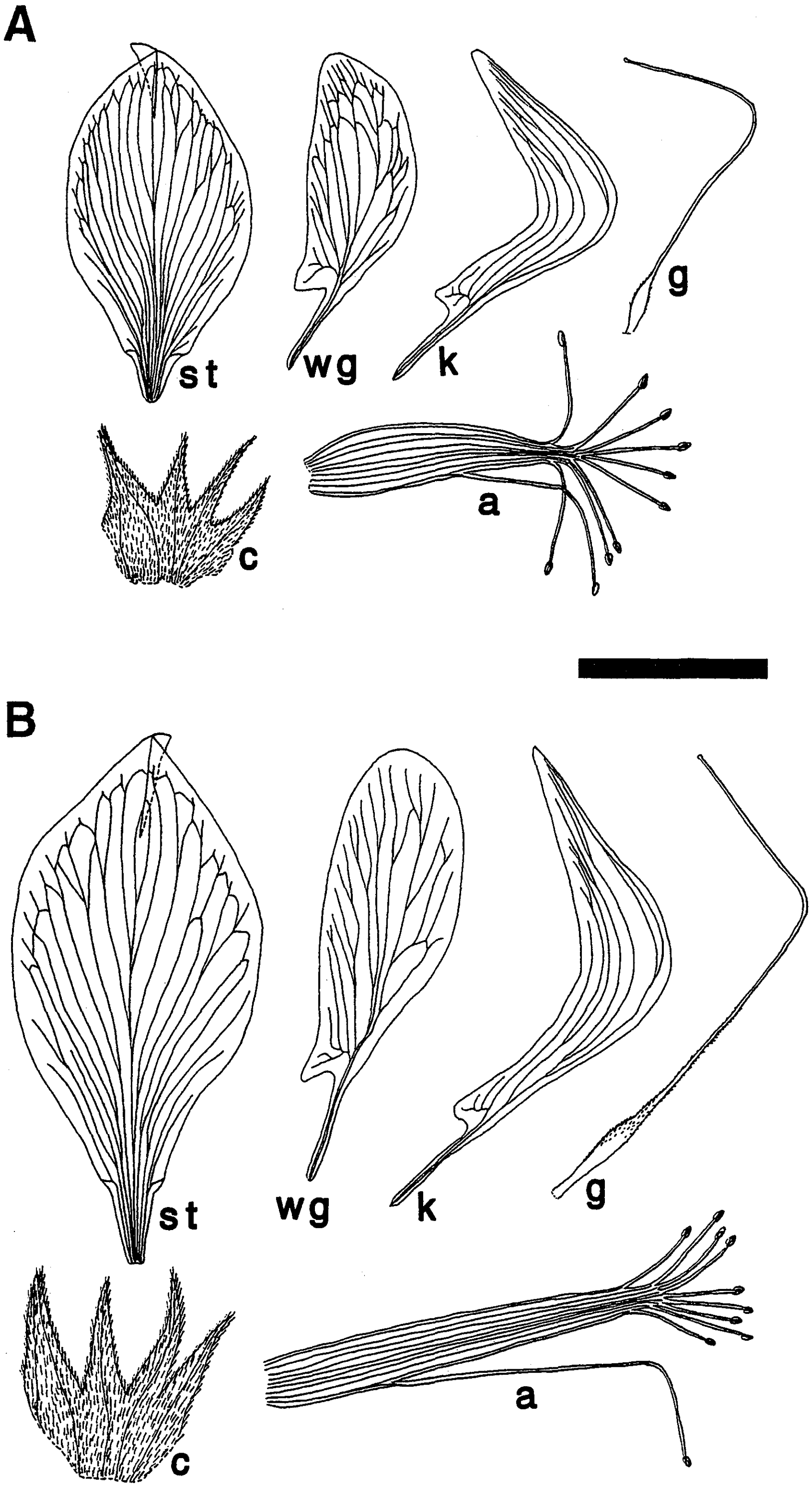

Fig. 26. Flowers of *Campylotropis fulva* (A. voucher specimen: Henry 9689A, K) and *C. grandifolia* (B. Henry 9888, 9890, A). a: androecium, c: calyx opened (outer surface), upper lobe in left, g: gynoecium, k: keel-petal, st: standard, wg: wing. Scale bar = 5 mm.

to staminal tube for about one-fifth of its length. Gynoecia ca. 12 mm long; ovary ca. 3.2 mm long; style 8.5–9 mm long. Pods obliquely elliptic to narrowly ovate, obtuse at the apex, patent short hairy, 15–18 mm long, 5.5–7 mm wide. Seeds reniform, purplish-brown, ca. 4 × 6.2 mm in size.

Specimens examined: BHUTAN. Dochu La to Wangdu Phodrang, 1750 m (B. Bartholomew & D. E. Bouford 3903, A); Tongsa, near Banjormani, 1150 m (A. J. C.Grierson & D. G. Long 4323, A, E); Phnakha, Tang Chu, 1410 m (A. J. C. Grierson & D. G. Long 4510, A, E); Wangdu Phodrang to Samtengang, 1250–1900 m (H. Hara & al. 25508, A, TI); Yunrak, 1250–1400 m (H. Hara & al. 4416, A, E); near Punakha, 1400 m (H. Kanai & al. 14790, A, TI); Samtengang to Choojom, 1300–1900 m (G. Murata & al. 10111, A, E; G. Murata & al. 10122, TI).

Cultivated in Japan. The Experimental Garden of the Biological Institute, Graduate School of Science, Tohoku University, originated from Bhutan (T. Nemoto 2982, TUS).

Distribution. Bhutan. (Fig. 31b)

This species is similar to *Campylotropis macrostyla* and *C. stenocarpa* as they all possess subdensely flowered, short racemes and large fruits, but they differ in having densely white-villous stems, longer calyx-lobes than the tube (usually two times longer than the length of tube) and persistent style at the apex of the fruits.

16. **Campylotropis harmsii** Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 342 (1912) [Type: China. Yunnan. Szemao. A. Henry 9803D (A, B, K syn.; E, LE, MO isosyn.)]; P.Y.Fu in Bull. Bot. Res., Harbin **7** (4): 28 (1987), & in Fl. Reip. Pop. Sin. **41**: 97 (1995). [Figs. 27b, 28B]

Lespedeza harmsii (Schindl.) H.Lév., Cat. Pl. Yun-Nan 158 (1916); Craib., Fl. Siam. Enum. **1**: 433 (1928).

A shrub, usually 100–200 cm high; young stems with subdense ascending hairs. Leaves with a distinct rachis (the rachis 7–10 mm long claw), dimorphous; lower leaves petiolate, leaflets obovate; upper leaves sometimes subsessile, leaflets orbicular or transverse elliptic. Stipules 3–4 mm long, 0.5 mm wide. Petioles of lower leaves 1–2 cm long, subdense ascending short hairs. Leaflets chartaceous, obtuse and mucronulate or acuminate at the apex and cuneate to broadly cuneate at the base, upper surface sparsely covered with appressed minute hairs, lower surface appressed hairy; terminal leaflets 1.5–3.5 cm long, 1.3–3 cm wide. Stipels absent. Inflorescences 2–3 cm long, often paniculate at terminal; panicle zigzagged, bent at the nodes; rachis and pedicels subdensely ascending hairy, rarely also with glandular hairs. Bracts 1–1.5 mm long. Pedicels 10–14 mm long. Bracteoles ca. 0.8 mm long. Calyx with dense ascending short hairs, rarely with glandular hairs; tube 2–2.5 mm long; lobes narrowly triangular, 2–3 mm long. Corolla purple; standard elliptic, obtuse at the apex, 12.5–13 mm long (including ca. 1.5 mm long claw), 5–6.5 mm wide; wings 12–13 mm long (including ca. 2.5 mm long claw), 4–5 mm wide; keel-petals 15–16 mm long (including ca. 2.8 mm long claw). Androecia ca. 12.5 mm long, vexillary stamen connate to staminal tube for about one-fourth of its length. Gynoecia 12–13 mm long; ovary ca. 3 mm long; style ca. 10 mm long. Pods obliquely elliptic, acute at the apex, ascending short hairy, 12–15 mm long, 5–6 mm wide. Seeds reniform, purplish-black, ca. 3 × 6 mm in size.

Specimens examined: CHINA. **Yunnan**. Szemao, 4500 ft. (A. Henry 9803D, A–syntype; E, LE, MO–isosyntype).

THAILAND. Chiang Mai, Doi Chiang Dao, 1750–2000m (R. Geesink & al. 8137, K), loc. cit., Doi Pa Ka, 1300 m (A. F. G. Kerr 4960, K), loc. cit., 1400–2000m (A. F. G. Kerr 6592, K), loc. cit., 1700–2150 m (H. Koyama & al. T-39775, KYO, TUS).

Distribution. China (Yunnan) and Thailand. (Fig. 31c)

The dimorphism in the shape of the leaflets and the length of the petioles between lower and upper leaves is less conspicuous than that of *Campylotropis diversifolia*. This species resembles *C. capillipes*, *C.*

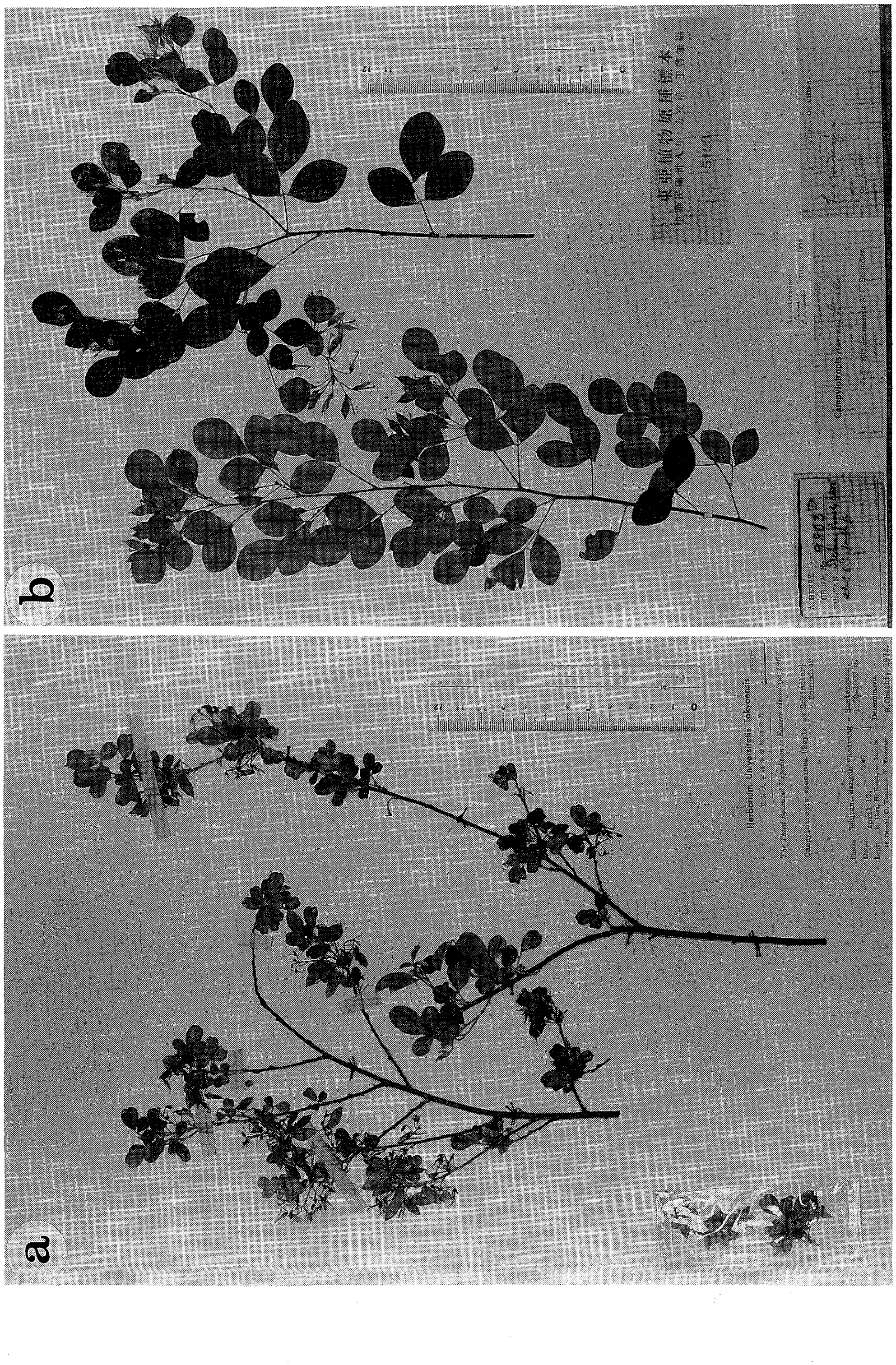

Fig. 27. a: *Campylotropis griffithii* Schindl. (voucher specimen: Hara et al. 25508, TI). b: *C. harmsii* Schindl. (Henry 9803D, A).

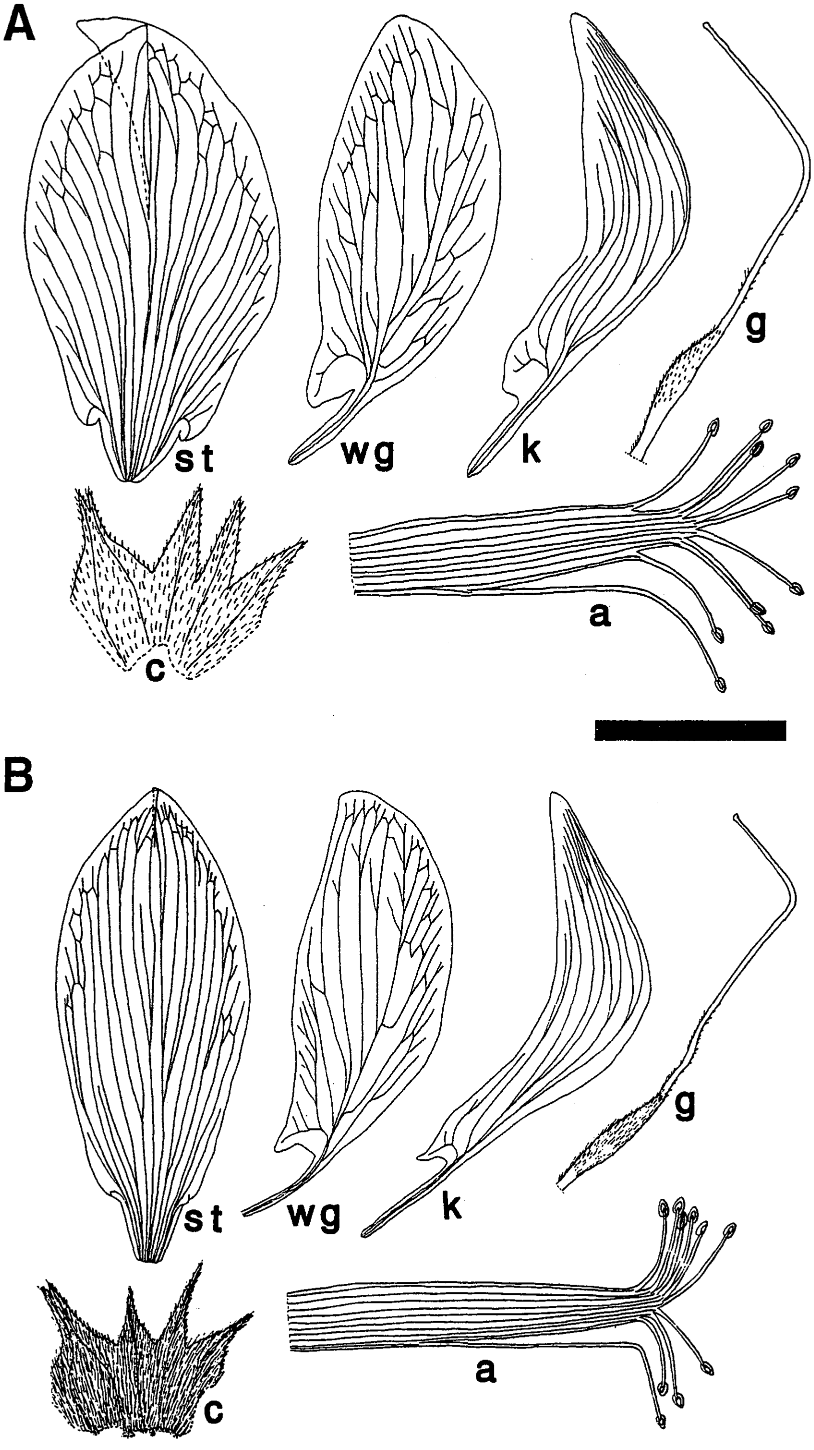

Fig. 28. Flowers of *Campylotropis griffithii* (A. voucher specimen: Nemoto 2982, TUS) and *C. harmsii* (B. Henry 9803D, A). a: androecium, c: calyx opened (outer surface), upper lobe in left, g: gynoecium, k: keel-petal, st: standard, wg: wing. Scale bar = 5 mm.

diversifolia and *C. pauciflora* in having a raceme with slender pedicels. The specimens of this species from Thailand tend to have more hairs especially on the upper surface of the leaflets.

17. **Campylotropis henryi** (Schindl.) Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 347 (1912); P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 29, fig. 2 (1987), & in Fl. Reip. Pop. Sin. **41**: 103 (1995). [Figs. 29a, 30A]

Lespedeza henryi Schindl. in Repert. Spec. Nov. Regni. Veg. **9**: 517 (1911) [Type: China. Yunnan. Yuanchang, 750 m. A. Henry 13212 (B holo.; A, CAL, E, K, MO iso.)]; H.Lév., Cat. Pl. Yun-Nan 158 (1916).

Campylotropis esquirolii Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 338 (1912) [Type: China. Guizhou. Chang-tang. Esquirol 1070 (LEMA syn., n. v.; E isosyn.); Pien-yang-ho-fu. J.Cavalerie 2624 (LEMA syn., n. v.; E isosyn.)]; E.Peter in Act. Hort. Gothob. **13**: 436 (1940); C.Y.Wu & al., Index Fl. Yunnan. **1**: 574 (1984); P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 30 (1987), & in Fl. Reip. Pop. Sin. **41**: 103 (1995), in nota, **syn. nov**.

A shrub, usually 100–200 cm high; young stems often distinctly quadrangular, sparsely appressed short hairy. Leaves with a distinct rachis; rachis 5–18 mm long. Stipules 5–10 mm long, 1–2 mm wide. Petioles dorsally angled, often slightly convex above, bisulcate and narrowly winged along both sides, 1–5 cm long, appressed short hairy. Leaflets subcoriaceous, oblong to ovate, obtuse to rounded and retuse and mucronulate at the apex, rounded at the base, upper surface glabrous, lower surface appressed hairy, particularly on the nerves and margin; terminal leaflets 3–10 cm long, 1.5–5 cm wide. Stipels absent. Inflorescences 3–15 cm long; rachis and pedicels with subdense appressed to ascending short hairs and sparse glandular hairs. Bracts 1.2–2.5 mm long. Pedicels 6–8.5 mm long. Bracteoles 0.6–1 mm long. Calyx with densely appressed short hairs and glandular hairs; tube 2–2.5 mm long; lobes narrowly triangular, 3–4.5 mm long. Corolla purple; standard elliptic, obtuse at the apex, 10–13 mm long (including ca. 2 mm long claw), 5–6 mm wide; wings 10–12.5 mm long (including ca. 3 mm long claw), 3–3.5 mm wide; keel-petals 12.5–15 mm long (including ca. 3 mm long claw). Androecia 12–13 mm long, vexillary stamen connate to staminal tube for about one-fifth of its length. Gynoecia 13–14 mm long; ovary appressed short hairy, 2.5–3 mm long; style ca. 10 mm long. Pods ovate, obtuse at the apex, ascending short hairy, 6–9 mm long, 4–5.5 mm wide. Seeds reniform, purplish black, ca. 2 × 4 mm in size.

Specimens examined: CHINA. **Guizhou**. Pien-yang-ho-fu (J. Cavalerie 2624, E–isosyntype of *C. esquirolii* Schindl.); Changtang, (Esquirol 1070, E–isosyntype of *C. esquirolii* Schindl.); locality unknown (Esquirol 3193, E, K); Lancang Xian, Sandy beach of Mekong R., 890 m (C. W. Wang 76718, A). **Yunnan**. Bijiang Xian, Pihe, 1000 m (Bijiang Exped. Team 249, KUN), loc. cit., 1100 m (Bijiang Exped. Team 274, KUN); Western Yunnan (R. C. Ching 50848, KUN); Lushui Xian, 890 m (Dulongjiang Exped. Team 161, KUN); Gaoligong Shan, 1000 m (Z. G. He 79-0144, KUN); Yuanjiang Xian, 2500 ft. (A. Henry 13212, A, CAL, E, K, MO–isotype of *C. henryi* Schindl.); Yuanjiang Xian, 600–800 m (Y. H. Li 5680, KUN); North of Keng Hung, Mekong R. (J. F. Rock 2521, A, E); Herong, 1600–1800 m (C. Schneider 2563, GH, photo in A); Shizong Xian, 790 m (H. Sun & al. 35, KUN), loc. cit., 900 m (H. Sun & al. 301, KUN); Luoping Xian, 740 m (H. Sun & al. 406, KUN); Yuanjiang Xian, 650 m (S. K. Wu 690, KUN); Shuangbai Xian, 1500 m (W. Q. Yin 751, KUN); Yuanjiang Xian, 950–1600 m (W. Q. Yin 2029, KUN).

Distribution. China (Guangxi, Guizhou and Yunnan). (Fig. 31d)

The winged petioles and distinctly angular branches that characterize this species are also observed in *Campylotropis grandifolia* and *C. trigonoclada*, but this species differs from these species primarily in having glandular hairs on the inflorescences. The wings of this species are sometimes not so prominent, especially on the petioles of upper small leaves. In such a form, this species somewhat resembles *C. polyantha*, but it is easily distinguished from the latter by the lack of stipels and longer calyx lobes (3–4.5 mm long in *C. henryi* against 1.3–2.5 mm long in *C. polyantha*).

Campylotropis henryi had been recorded from Thailand and Laos (Gagnepin 1920 & Craib 1928, as *Lespedeza henryi*; Thuân 1987), but these are ascribed to *C. decora*.

18. **Campylotropis hirtella** (Franch.) Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 428 (1912), & in Sargent, Pl. Wils. **2**: 115. (1914), & in Hand.-Mazz., Symb. Sin. **7**: 574 (1933); E.Peter in Act. Hort. Gothob. **13**: 438 (1940); Fl. Illust. Pl. Prim. Sin. 537, fig. 531 (1955); Icon. Cormophyt. Sin. **2**: 466, fig. 2661 (1972); H.Ohashi in J. Jpn. Bot. **49**: 111 (1974); C.Y.Wu & al., Index Fl. Yunnan. **1**: 574 (1984); P.Y.Fu in Bull. Bot. Res., Harbin **7** (4): 27 (1987), & in Fl. Reip. Pop. Sin. **41**: 95 (1995). [Figs. 29b, 30B]

Lespedeza hirtella Franch., Pl. Delavay. 167 (1890) [Type: China. Yunnan. Dapingzi to Songping as "in silva Song-pin, supra Tapin-tze; fl. 18 Aug. 1885". Delavay 1960 (P holo.)]; H.Lév., Cat. Pl. Yun-Nan 158 (1916).

Lespedeza mairei Pamp. in Nuovo Giorn. Bot. Ital., n.s., **17**: 22, fig. 7 (1910) [Type: Montagnes. Maire 172 (UC syn., n. v., photo in A), Maire 158 (UC syn., n. v., photo in A), Maire 205 (syn., n. v.); Yunnan-sen. Maire 141 (syn., n. v.); Côteaux arides. Maire 87 & 157 (syn., n. v.)]; H.Lév., Cat. Pl. Yun-Nan 158 (1916).

A shrublet, usually 50–100 cm high; young stems with subdense ferrugineous patent hairs. Aerial stems annual and coming from axillary or adventitious buds at the basal perennial parts of the stems. Usually several withered shoots from the previous year persistent at the base of the annual shoots. Leaves with a distinct rachis; rachis 0.1–2 cm long. Stipules 2–8 mm long, 0.8–1 mm wide. Petioles 0.1–2 cm long, very short on upper leaves, densely ascending or appressed hairy. Leaflets coriaceous, deltoid to ovate, retuse and mucronulate at the apex, cordate, truncate or rounded at the base, upper surface sparsely or subdensely ascending hairy, lower surface subdensely ascending hairy; terminal leaflets 1–6 cm long, 1–4 cm wide. Stipels absent. Inflorescences 4–17 cm long, usually paniculate; rachis and pedicels densely covered with patent short hairs and glandular hairs. Bracts 1–4 mm long. Pedicels 1.5–7 mm long. Bracteoles 0.8–2 mm long. Calyx with subdense ascending short hairs and glandular hairs; tube 2–2.8 mm long; lobes narrowly triangular, 2.5–3.2 mm long. Corolla purple; standard elliptic, obtuse at the apex, 13–15 mm long (including 2–3 mm long claw), 6.5–7 mm wide; wings ca. 13 mm long (including 3–4 mm long claw), ca. 4 mm wide; keel-petals 15.5–17 mm long (including 3–4 mm long claw). Androecia 13–14 mm long, vexillary stamen connate to staminal tube for about one-fifth of its length. Gynoecia 14.5–15 mm long; ovary narrowly ovate, appressed short hairy, ca. 2 mm long; style ca. 13 mm long. Pods obliquely obovate, obtuse at the apex, ascending short hairy, ca. 5 mm long, ca. 3 mm wide. Seeds reniform, purplish-brown, ca. 3.7 × 2 mm in size.

Specimens examined: CHINA. **Guizhou**. Anshun Xian, 1300 m (Anshun Exped. 1853, KUN). **Sichuan**, Yen-yuan-hsien (W. P. Fang 6757, K); Yanyuan Xian, 2400 m (Qinghai-Xizang Exped. 12680, KUN); Hechang Xian, 1950 m (T. T. Yü 1080, A), 2000 m (T. T. Yü 1145, A); Huei-li Xian, 1500 m (T. T. Yü 1360, A). **Xizang** (Tibet). Zayu Xian, 2700 m (Qinghai-Xizang Exped. 10936, KUN), loc. cit., 2200 m (Qinghai-Xizang Exped. 73-555, KUN). **Yunnan**. locality unknown (J. Cavalerie 4685, E); W. Lijiang, Laschiba (R. C. Ching 21018, A); Hentantan, near Lijiang (R. C. Ching 22210, A); Lijiang Snow Range (R. C. Ching 30510, A); Binchuan Xian, Dapingzi to Songping (Delavay 1960, P–holotype and isotype of *Lespedeza hirtella* Franch.); loc. cit. as "in dumetis ad collum Piiouse, alt. 2000 m, supra Tapin-tze. 22 Sep. 1887"

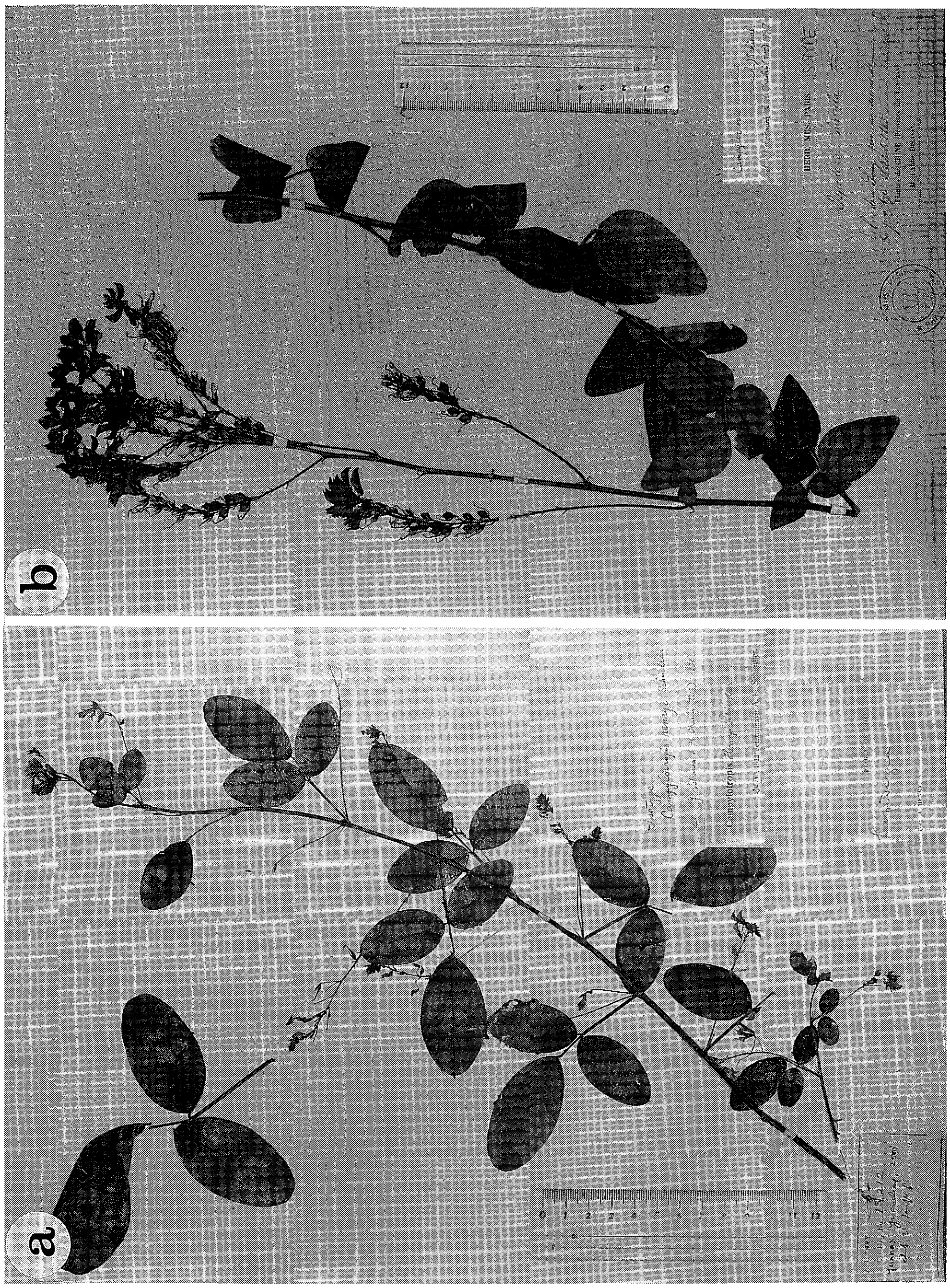

Fig. 29. a: *Campylotropis henryi* (Schindl.) Schindl. (voucher specimen: Henry 13212, A). b: *C. hirtella* (Franch.) Schindl. (Delavay 1960, P).

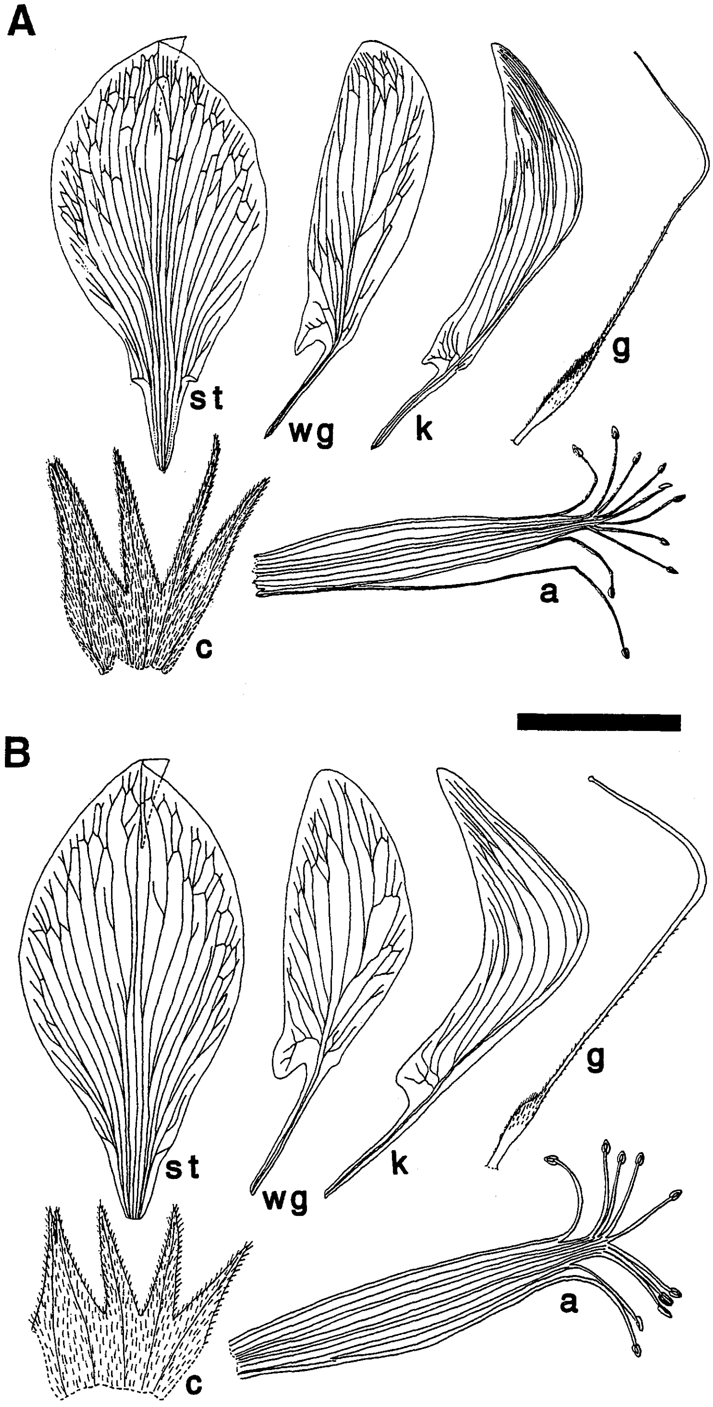

Fig. 30. Flowers of *Campylotropis henryi* (A. voucher specimen: Esquirol 1070, E) and *C. hirtella* (B. Ohashi et al. 28356, TUS). a: androecium, c: calyx opened (outer surface), upper lobe in left, g: gynoecium, k: keel-petal, st: standard, wg: wing. Scale bar = 5 mm.

(Delavay, K); locality unknown (Ducloux 747, K); Yo lin chan (Ducloux 7284, BM, K); Haba Snow Range, Hai-tao-yuan (K. M. Feng 1306, A); Chungtien to Lochiho, 2800 m (K. M. Feng 1992, A); Eastern flank of the Lijiang Range, 9000–10500 ft. (G. Forrest 2717, E, K); Eastern flank of the Dali Range, 10000 ft. (G. Forrest 4245, A); Eastern flank of the Lijiang Range, 9000–10500 ft. (G. Forrest 6140, E, K); Eastern flank of the Dali Range, 10000 ft. (G. Forrest 6850, E, 6850A, K); Tengchong (G. Forrest 8248, E); Mengzi (Hancock 97, 348, K); Dali Xian, roadside near broadcasting center, 2500 m (H. Hara & K. Y. Guan 386, TUS); Mengzi, 5000 ft. (A. Henry 9689, A, E, K); Yangbi Xian, Zhongshan, 2600 m (K. Iwatsuki & al. 964, 1136, TUS); Dali Xian, Huadianba, 2900–3100 m (K. Iwatsuki & al. 1636, TUS), Mt.Cang Shan, 2400–2700 m (H. Koyama & al. 1277, A, TUS); locality unknown (E. E. Maire 158, photo in A–syntype of *Lespedeza mairei* Pamp.; E. E. Maire 172, photo in A–syntype of *Lespedeza mairei* Pamp.; E. E. Maire 497, E, K); Siao-ou-long, 2550 m (E. E. Maire s.n., A, BM, E, K); Tali, Mt. Manung (McLaren's collectors B91, E, K); Dali Xian, Mt. Dian-chang, 2050–3100 m (J. Murata & al. 38, TUS), east of Dali town, 2270 m (J. Murata & al. 244, TUS); Lijiang Xian, Bai-shui-he, 2950 m (J. Murata 514, TUS); Kunming, near Gingdian temple, ca. 2000 m (J. Murata & F.Yamazaki 8690, 8718, 8759, 8775, TUS), near Tsjung-chu-sh temple, 2100–2400 m (J. Murata & F.Yamazaki 8879, TUS), near Hua-ji-gou (J. Murata & F.Yamazaki 9246, TUS); Pingpo to Youngchang & Tengchong (J. F. Rock 6971, A, E); locality unknown, 2200 m (O. Schoch 234, A); Dali Xian, E. of Diancang Shan Range, Yinglofeng, 2900–3050 m (Sino-Amer. Bot. Exped. 956, A, E, TUS); locality unknown (S. Ten 55, E); locality unknown (H. T. Tsai 57582, A); Wei-se Xian, 2800 m (H. T. Tsai 59514, A), Kang pu, 2500 m (C. W. Wang 64360, A); locality unknown (T. T. Yü 7219, A); Hentantan, Lichiang Snow Range, 3000 m, grassy slope (T. T. Yü 15487, A, BM); Yuragan, Salween valley, Yuragan 1700 m, side of river, grassy place (T. T. Yü 23065, A, E).

INDIA. Assam. Di Chu gorge, 5.500 ft. an undershrub, amongst grass and bracken, in pine forest (F. Kingdon-Ward 20017, BM).

Distribution. China (Guizhou, Sichuan, Xizang and Yunnan) and India (Assam). (Fig. 31e)

The overall appearance is somewhat similar to *Campylotropis alopochroa* and *C. falconeri* especially in the large, panicle-like inflorescence composed of several upper racemes with reduced subtending leaves. However, both *C. alopochroa* and *C. falconeri* have obovate to oblong leaflets without prominent lateral nerves beneath and several different floral features, which set them apart from *C. hirtella*.

19. **Campylotropis howellii** Schindl. in Trans. Proc. Bot. Soc. Edinb. **26**: 285 (1914) [Type: China. Yunnan. Tengchong. Howell 6 (E holo.)]; P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 40 (1987), & in Fl. Reip. Pop. Sin. **41**: 112 (1995). [Figs. 32a, 33A]

A shrub or shrublet, usually ca. 100 cm high; young stems sparsely covered with appressed or ascending short hairs. Leaves with a distinct rachis; rachis 1–5 mm long. Stipules 3–8 mm long, 0.6–1 mm wide. Petioles 0.3–2.5 cm long, densely appressed or ascending hairy. Leaflets chartaceous, obovate to oblong, retuse and mucronulate at the apex, obtuse or rounded at the base, upper surface glabrous, lower surface sparsely appressed short hairy; terminal leaflets 1.5–3 cm long, 1–2 cm wide. Stipels absent. Inflorescences axillary or terminal racemose, 2.5–11 cm long, densely flowered on the long peduncle; rachis and pedicels densely ascending short hairy. Bracts linear, 2.5–7 mm long. Pedicels 1.5–3 mm long. Bracteoles 1–2.5 mm long. Calyx subdensely covered with appressed short hairs; tube 2–2.5 mm long; lobes narrowly triangular, 2.5–3.5 mm long. Corolla purple; standard obovate, obtuse at the apex, 10–10.5 mm long (including ca. 2 mm long claw), 5–6 mm wide; wings ca. 10.5 mm long (including ca. 2.5 mm long claw), ca. 3 mm wide; keel-petals shallowly inflexed, 12.5–13 mm long (including ca. 2.2 mm long claw). Androecia ca. 10 mm long, vexillary stamen connate to staminal tube for about one-fifth of its length. Gynoecia ca. 10 mm long; ovary narrowly ovate, appressed short hairy, ca. 2 mm long; style ca. 7.2 mm long. Pods obliquely obovate, obtuse at the apex, ascending short hairy, ca. 5.5 mm long, ca. 3

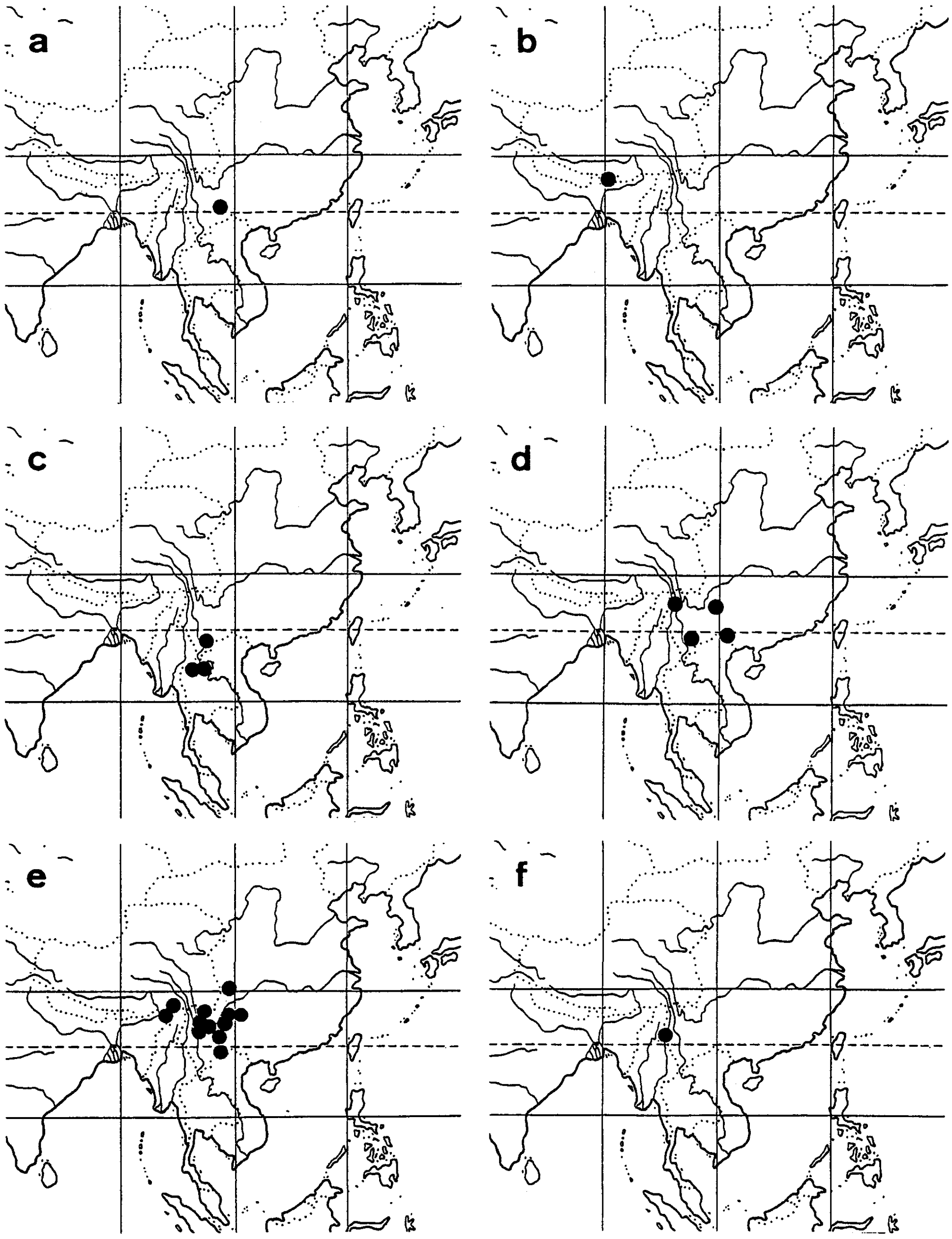

Fig. 31. Distribution of *Campylotropis* (III). a: *C. grandifolia*, b: *C. griffithii*, c: *C. harmsii*, d: *C. henryi*, e: *C. hirtella*, f: *C. howellii*.

mm wide. Seeds reniform, purplish-brown.

Specimens examined: CHINA. **Yunnan**. Mingkwong valley. dry situations amongst scrub, 6500 ft. (G. Forrest 8820, A, E); Tengchong, 6000–7000 ft. open stony pasture (G. Forrest 11752, A, E), loc. cit. (E. B. Howell 6, E–holotype; E. B. Howell 177, 192, E).

Distribution. China (Yunnan). (Fig. 31f)

This species and *Campylotropis wilsonii* have terminal racemes on each branch while axillary ones are the norm in other species of the genus. Clustered flowers in the upper part of the inflorescences and the shallowly curved keel-petals also characterize this species.

20. **Campylotropis latifolia** (Dunn) Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 428 (1912), & in Sargent, Pl. Wils. **2**: 115 (1914); C.Y.Wu & al., Index Fl. Yunnan. **1**: 574 (1984); P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 50 (1987), & in Fl. Reip. Pop. Sin. **41**: 124 (1995). [Figs. 32b, 33B]

Lespedeza latifolia Dunn in J. Linn. Soc. Bot. **35**: 488 (1903) [Type: China. Yunnan. Mile Xian. A. Henry 9889 as erroneously 9899 (K holo.; A, CAL, MO iso.)]; H.Lév., Cat. Pl. Yun-Nan 158 (1916).

Campylotropis paniculata Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 425 (1912) [Type: China. Yunnan. Tungchuan. Maire 3170 (B holo., n. v., photo in K; LE iso.)], **syn. nov**.

A shrub, usually ca. 100–200 cm high; young stems densely whitish velutinous. Leaves with a distinct rachis; rachis 4–14 mm long. Stipules triangular, 3–4 mm long, 1.5–2.5 mm wide. Petioles 1.5–5 cm long, densely ascending whitish veltinous. Leaflets coriaceous, ovate to broadly ovate or broadly elliptic, retuse and mucronulate at the apex, rounded at the base, upper surface subdensely puberulous, rarely glabrescent, lower surface subdensely whitish pubescent; terminal leaflets 4–10 cm long, 2–6 cm wide. Stipels absent. Inflorescences 6–13 cm long, sometimes paniculate; rachis and pedicels subdensely pubescent and with glandular hairs. Bracts 3–4 mm long, usually caducous before anthesis. Pedicels 2.5–7 mm long. Bracteoles 0.7–1 mm long. Calyx subdensely covered with ascending short hairs and glandular hairs; tube 1.5–1.8 mm long; lobes triangular, 1.2–2.5 mm long. Corolla purple; standard obovate, obtuse at the apex, ca. 12 mm long (including ca. 2.2 mm long claw), ca. 6.5 mm wide; wings ca. 11.5 mm long (including ca. 2.5 mm long claw), 4–4.5 mm wide; keel-petals 14.5–15.5 mm long (including ca. 2.8 mm long claw). Androecia 11.5–12 mm long, vexillary stamen connate to staminal tube for about one-fifth of its length. Gynoecia ca. 14 mm long; ovary narrowly ovate, ascending short hairy, ca. 2.5 mm long; style ca. 11.5 mm long. Pods obliquely oblong, acute at the apex, patent short hairy, 8–11 mm long, ca. 3.5 mm wide.

Specimens examined: CHINA. **Yunnan**. Mile Xian (A. Henry 9889, K–holotype of *Lespedeza latifolia* Dunn, A, MO–isotype); Dongchuan, Xiao Jiang (Maire 3170, LE–isotype of *C. paniculata* Schindl., photo of holotype of *C. paniculata* in K); Yuanyang Xian, 380 m (D. D. Tao 1377, KUN); Shiping Xian, 1400 m (S. K. Wu 883, KUN); Yuanjiang, 1000–1200 m (W. Q. Yin 1920, KUN).

Distribution. China (Yunnan). (Fig. 41a)

This species is characterized by large leaflets covered with whitish, soft hairs. *Campylotropis pinetorum* is similar to this species in the inflorescence, but it is more densely flowered and has much longer calyx-lobes: 3–4.5 mm long, against 1.2–2.5 mm long in *C. latifolia*.

21. **Campylotropis luhitensis** H.Ohashi in J. Jpn. Bot. **51**: 345 (1976) [Type: Burma, Kahao. Luhit Valley. F. Kingdon-Ward 7658 (K holo.)]. [Figs. 34a, 35A]

A shrub; young stems with dense whitish hairs. Leaves with a rachis; rachis 1–4 mm long. Stipules 4–7 mm long, ca. 1 mm wide. Petioles 0.5–1.5 cm long, densely pubescent. Leaflets subcoriaceous, elliptic, retuse and mucronulate at the apex, obtuse at the base, upper surface glabrous, lower surface

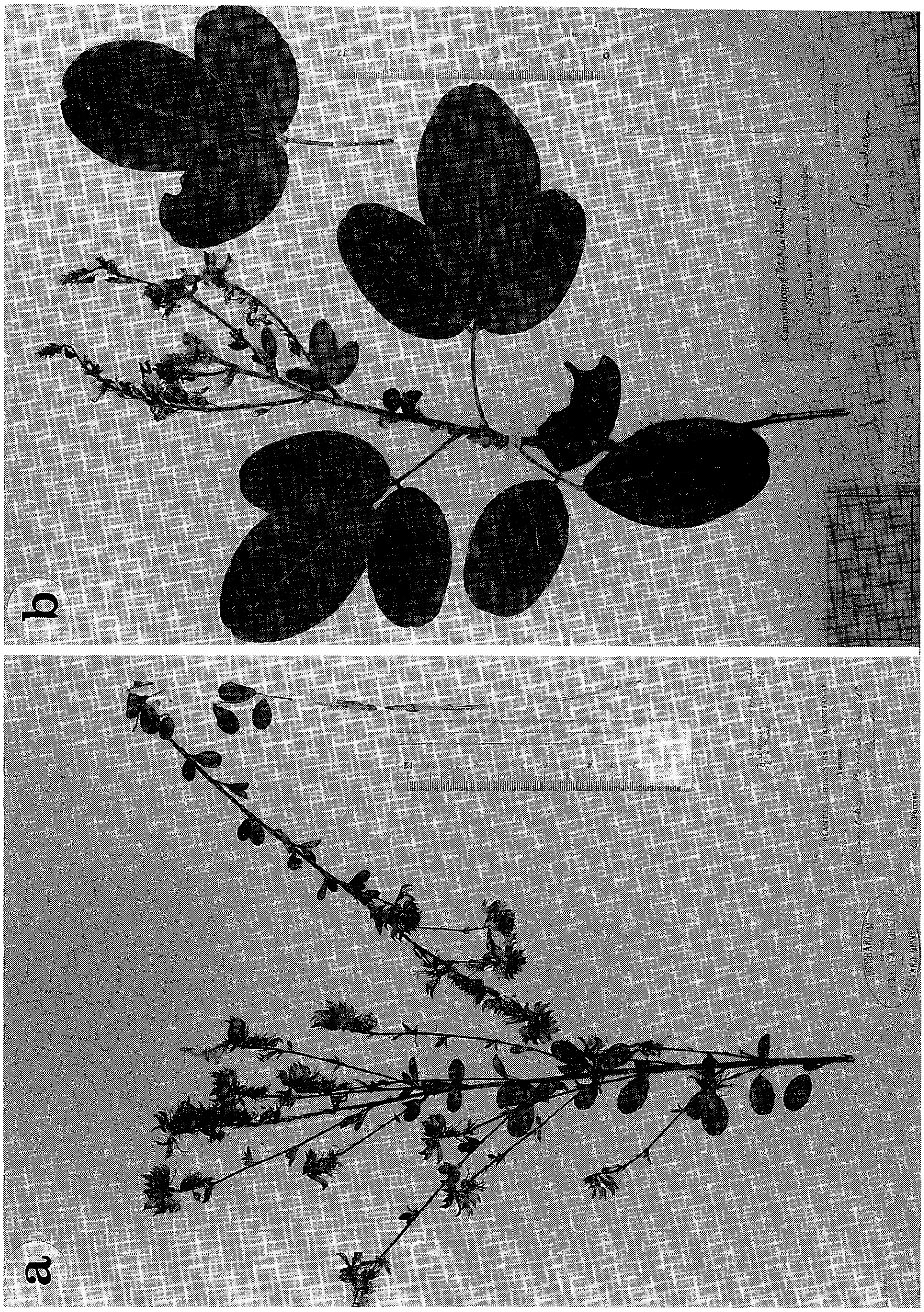

Fig. 32. a: *Campylotropis howellii* Schindl. (voucher specimen: Forrest 8820, A). b: *C. latifolia* (Dunn) Schindl. (Henry 9889, A).

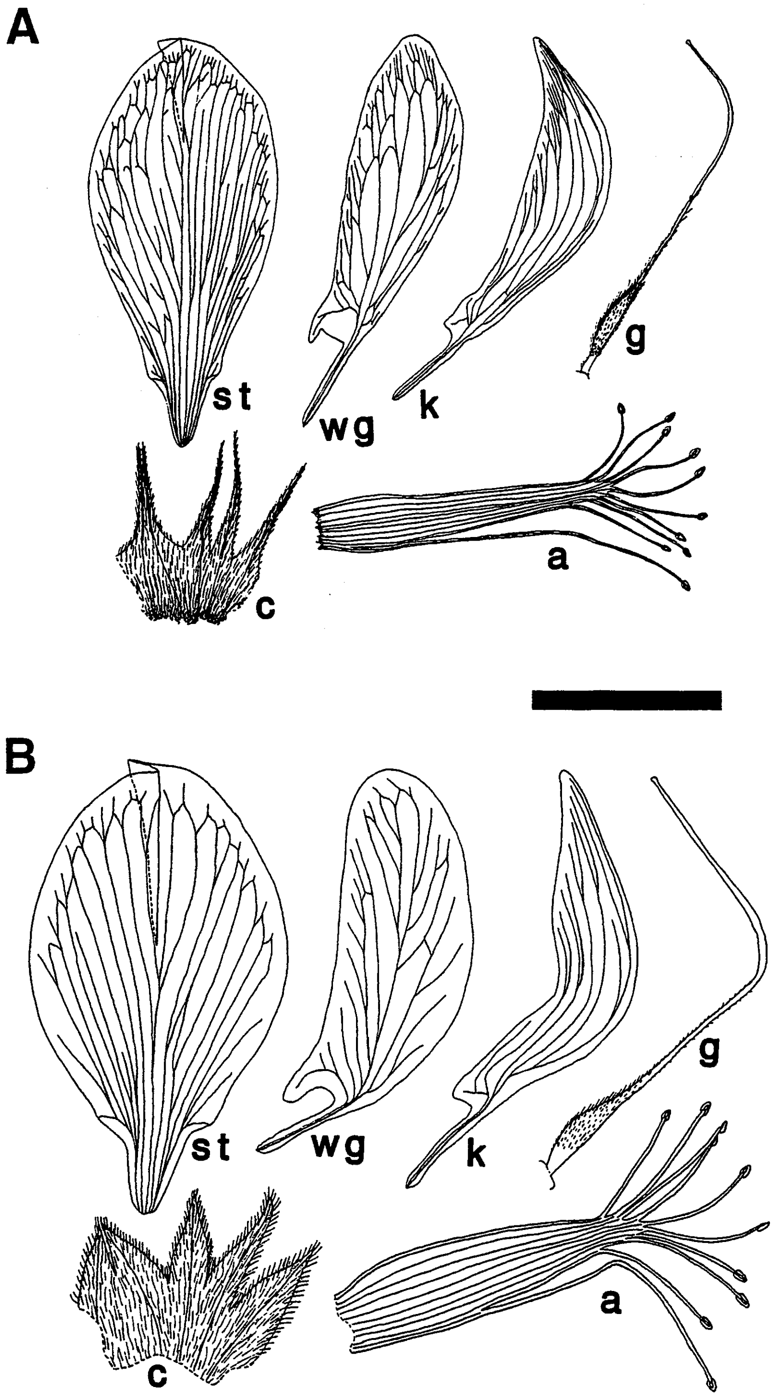

Fig. 33. Flowers of *Campylotropis howellii* (A. voucher specimen: Howell 6, E) and *C. latifolia* (B. Yin 1920, KUN). a: androecium, c: calyx opened (outer surface), upper lobe in left, g: gynoecium, k: keel-petal, st: standard, wg: wing. Scale bar = 5 mm.

densely whitish appressed pubescent; terminal leaflets 1–3.5 cm long, 0.6–1.8 cm wide. Stipels absent. Inflorescences usually paniculate, each raceme 2–4 cm long; rachis densely patent pubescent mixed with glandular hairs. Bracts 2–2.5 mm long. Pedicels 5–8 mm long, densely patent pubescent mixed with glandular hairs. Bracteoles ca. 1 mm long. Calyx subdensely ascending short hairy; tube 1.5–2 mm long; lobes narrowly triangular, 2–2.4 mm long. Corolla purple; standard elliptic, obtuse at the apex, 8–9.5 mm long (including ca. 1 mm long claw), 4–5 mm wide; wings 7.8–9.5 mm long (including 1.5–2 mm long claw), 2.5–3 mm wide; keel-petals ca. 11 mm long (including 1.5–2 mm long claw). Androecia ca. 9.5 mm long, vexillary stamen connate to staminal tube for about one-sixth of its length. Gynoecia 9.5–10 mm long; ovary narrowly ovate, appressed short hairy, ca. 2.5 mm long; style 6.5–7.5 mm long. Pods obliquely ovate, densely short hairy, 11–14 mm long, ca. 4 mm wide. Seeds reniform, ca. 4 × 2.5 mm in size.

Specimens examined: CHINA. Xizang (Tibet). Rima, 5000 ft. (F. Kingdon-Ward 20139, TI).

MYANMAR (BURMA). Kahao, Luhit Valley, 4000–5000 ft. a small shrub, growing in thickets or in open situations in pine forest. (F. Kingdon-Ward 7658 K–holotype of *C. luhitensis*, photo in TUS).

Distribution. China (Xizang) and Myanmar (Burma). (Fig. 41b)

This species more or less resembles *Campylotropis argentea*. However *C. argentea* has dense minute hairs on the upper surface of the leaflets and no glandular hairs in the inflorescences.

22. **Campylotropis macrocarpa** (Bunge) Rehder in Sargent, Pl. Wils. **2**: 113 (1914), in nota, & in J. Arn. Arb. **7**: 178 (1926); Schindl. in Hand.-Mazz., Symb. Sin. **7**: 573 (1933); Kitagawa, Lineam. Fl. Mansh. 282 (1939); E.Peter in Act. Hort. Gothob. **13**: 436 (1940); Fl. Illust. Pl. Prim. Sin. 543, fig. 539 (1955); Icon. Cormophyt. Sin. 2: 467, fig. 2663 (1972); P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 40 (1987), & in Fl. Reip. Pop. Sin. **41**: 113 (1995).

[Figs. 1, 34b, 35B, 36a]

Lespedeza macrocarpa Bunge in Mem. Acad. Sci. St. Petersb. Sav. Etrang. **2**: 92 (Enum. Pl. Chin. Bor. 18) (1833) [Type: China. in montosis Chinae borealis totius, Bunge s.n. (LE holo.; PE iso.)]; Maxim. in Acta Hort. Petrop. **2**: 351 (1873); Diels in Bot. Jahrb. **29**: 414 (1901), p. p.; Nakai, *Lespedeza* Japan & Korea 5 (1927).

Campylotropis chinensis Bunge, Zap. Izd. Kazansk. Univ. **4**: 157 (1835) [Type: type of *Lespedeza macrocarpa* Bunge]; Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 340 (1912), & in Sargent, Pl. Wils. **2**: 113 (1914).

Lespedeza ciliata Benth. in J. Bot. Kew Misc. **4**: 48 (1852), in nota [Type: China. Zhejiang. Chusan. Fortune 31 (K syn., n. v.), 42. (BM isosyn.)]; Forb. & Hemsl. J. Linn. Soc. Bot. **23**: 180 (1887).

Lespedeza ichangensis Schindl. in Repert. Spec. Nov. Regni. Veg. **9**: 515 (1911) [Type: China. Hubei. Ichang. A. Henry 1547 (B syn., n. v.), A. Henry 2174 (B syn., n. v.; K isosyn.); Ichang. Niederlein 74 (B syn., n. v.; A isosyn.)].

Lespedeza rosthornii Schindl. in Repert. Spec. Nov. Regni. Veg. **9**: 516 (1911) [Type: China. Sichuan. Nanchuan. Bock & v. Rosthorn 1627 (B syn., n. v.; A isosyn.), 1644, 1651 (B syn., n. v.)]; H.Lév., Cat. Ill. Alphab. Pl. Sen Tchouen 103 (1918).

Lespedeza muehleana Schindl. in Repert. Spec. Nov. Regni. Veg. **9**: 517 (1911), p. p., quoad specim. cit. Wilson 1168 (B).

Lespedeza distincta L.H.Bailey, Gent. Herb. 31 (1920) [Type: China. Border of the Provinces of Hupeh and Honan. Jigong shan as "Chi-kung-shan". L. H. Bailey s.n. (E iso.; A photo of holo.)].

Campylotropis gracilis Ricker in J. Wash. Acad. Sci. **36**: 38 (1946) [Type: China.

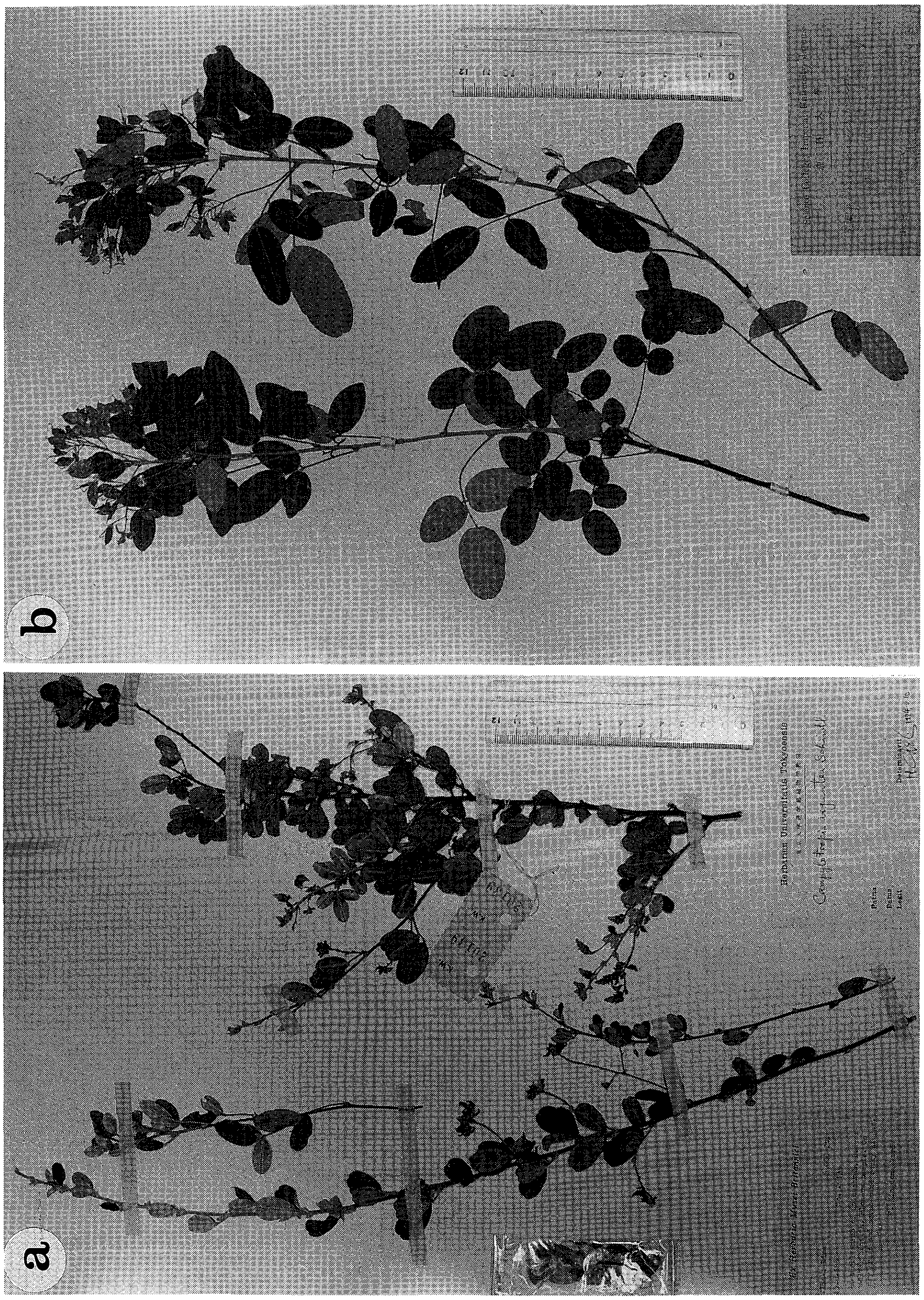

Fig. 34. a: *Campylotropis luhitensis* H.Ohashi. (voucher specimen: Kingdon-Ward 20139, TI). b: *C. macrocarpa* (Bunge) Rehder var. *macrocarpa* f. *macrocarpa* (Yabe, Sept.16, 1905, TI).

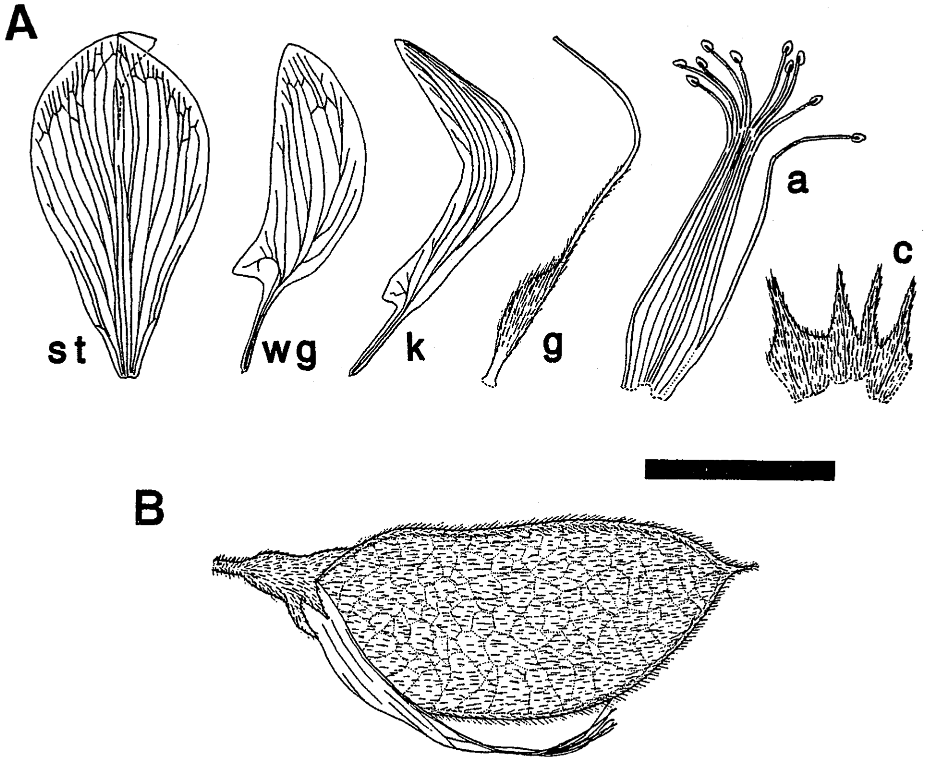

Fig. 35. Flowers of *Campylotropis luhitensis* (A. voucher specimen: Kingdon-Ward 20139, TI) and pod of *C. macrocarpa* var. *hupehensis* (B. Hers 1199, A). a: androecium, c: calyx opened (outer surface), upper lobe in left, g: gynoecium, k: keel-petal, st: standard, wg: wing. Scale bar = 5 mm.

Hupeh. A. Henry 6508 (GH holo.)].

Campylotropis hersii Ricker in J. Wash. Acad. Sci. **36**: 38 (1946), ut *hersi* [Type: China. Jianxi. Chihli. Nankow Pass. J. Hers 1601 (A holo.)].

Campylotropis huberi Ricker in J. Wash. Acad. Sci. **36**: 38 (1946) [Type: China. no locality, probably vicinity of Yunnan or Sichuan. W. Huber B46 = 746 (NY holo., n. v. photo in A)], **syn. nov**.

Campylotropis mortolana Ricker in J. Wash. Acad. Sci. **36**: 39 (1946) [Type: Italy. La Mortola Garden. C. Schneider, August 1903 (A. holo.), probably from Yunnan or Sichuan (Ricker 1946)], **syn. nov**.

Campylotropis smithii Ricker in J. Wash. Acad. Sci. **36**: 40 (1946) [Type: China. Sichuan. near Ta-tien. H. Smith 2268 (A holo.)], **syn. nov**.

Campylotropis ichangensis (Schindl.) Cheng & al. in Fl. Illust. Pl. Prim. Sin. 544 (1955), fide P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 41 (1987); Icon. Cormophyt. Sin. **2**: 467 (1972), in nota.

Campylotropis macrocarpa var. *macrocarpa* f. *lanceolata* P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 41 (1987) [Type: China. Sichuan. Chongqing. Beipei. G. Z. Wang 1030 (PE holo.)], & in Fl. Reip. Pop. Sin. **41**: 113 (1995), **syn. nov**.

Campylotropis macrocarpa subsp. *hengduanshanensis* C.J.Chen in Acta Bot. Yunnan. **10**: 435 (1988) [Type: China. Sichuan. Maowen. W. P. Fang 5512. (PE holo., n. v.; A, E iso.)], **syn. nov**.

A shrub, usually 100–200 cm high; young stems with appressed or ascending hairs. Leaves with a distinct rachis; rachis 3–15 mm long. Stipules 2–7 mm long, 0.3–1.2 mm wide. Petioles 1–5 cm long, appressed or ascending pubescent. Leaflets subcoriaceous, oblong or ovate, rarely obovate, retuse and mucronulate at the apex, obtuse or rounded at the base, upper surface glabrous or sparsely pubescent, lower surface sparsely to densely ascending pubescent; terminal leaflets 1.2–6.5 cm long, 0.7–3.7 cm wide. Stipels rarely present, linear. Inflorescences 2.5–15 cm long, sometimes paniculate; rachis and pedicels appressed or ascending pubescent mixed with glandular hairs. Bracts 1.3–3 mm long, caducous before anthesis. Pedicels 2–11 mm long. Bracteoles 0.5–1 mm long. Calyx subdensely appressed or ascending short hairy mixed with glandular hairs; tube 1.2–2 mm long; lobes triangular, shorter than the tube, 0.8–3 mm long. Corolla purple to pinkish white or rarely pure white; standard elliptic, obtuse at the apex, 11–12 mm long (including 1–1.5 mm long claw), 5–6 mm wide; wings 10–12 mm long (including 2–3 mm long claw), 3–5 mm wide; keel-petals 11.5–14.5 mm long (including 2–3 mm long claw). Androecia 10–12 mm long, vexillary stamen connate to staminal tube for about one-fifth of its length. Gynoecia 11–12.5 mm long; ovary 2.5–3 mm long; style 8.5–9 mm long. Pods obliquely obovate to oblong, 9.5–15 mm long, 4–6 mm wide, acute at the apex, lateral surface glabrous or pubescent. Seeds reniform, redish-brown, 2.7–5 × 1.5–3 mm in size.

Distribution. China (Anhui, Beijing, Fujian, Gansu, Guangdong, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan and Zhejiang), Korea and southern Mongolia. (Fig. 41c)

Campylotropis macrocarpa is the most widely distributed species in the genus, from Sichuan to Korea and southern Mongolia, and is not distributed in Yunnan. So far as the specimens we examined that referred to *C. macrocarpa* collected in Yunnan are identified to be *C. polyantha*. These two species are easily distinguishable whether the stipels are present (as *C. polyantha*) or not (as *C. macrocarpa*).

Campylotropis macrocarpa is variable in the shape and size of inflorescences, leaves and pods and degree of hairiness. Some infraspecific taxa have been distinguished on the basis of these variable characters. Only two varieties are distinguished in the present study; one with glabrous pods and shorter calyx-lobes and the other with pubescent pods and longer calyx-lobes. We recognize the former as var. *macrocarpa* and the latter var. *hupehensis*. Their distribution patterns tend to be different that var. *hupehensis* extends more southward in distribution, Guangdong to Taiwan, than var. *macrocarpa*.

Key to the varieties and the forms of *C. macrocarpa*

1. Lateral surface of pods glabrous; calyx lobes shorter than the tube, 0.8–1.2 mm long ....2 (var. *macrocarpa*)
    2. Flowers purple to pinkish white ....f. *macrocarpa*
    2. Flowers pure white......................f. *alba*
1. Lateral surface of pods pubescent; calyx lobes almost as long as the tube, 2.2–3 mm long ....var. *hupehensis*

22–1. *Campylotropis macrocarpa* (Bunge) Rehder var. **macrocarpa** f. **macrocarpa**

[Figs. 1 in part I, 34b]

Specimens examined: CHINA. Northern China (Bunge s.n., LE–holotype of *Lespedeza macrocarpa* Bunge, PE-isotype). **Anhui**. Huang Shan (1543, PE; R. C. Ching 2926, A, E); locality unknown, 500 ft. (R. C. Ching 9031, E); Quanjiao Xian (Statio Orientali-Sinensis 3664, PE); Jiuhua Shan (Statio Orientali-Sinensis 5856, PE); locality unknown (P. C. Tsoong

4549, PE). **Beijing**. locality unknown (Hemeling 25, E; Hemeling 225, E); Northern Chihli, Nankow Pass (J. Hers 1601, A–holotype of *C. hersii* Ricker); Bada Ling (I. Namikawa, Sept. 9,1934, KYO); West hills (Oliols 66, E); Miao Feng Shan (Shangtung Univ. 617, A); Hai Dian Qu, Jin Shan, 750 m (Wang & al. 375 NY); Hills, west of Beijing (R. A. Williamson s.n., E); Chiangping, Nankou (Y. Yabe Aug. 16, 1905, TI); Yuquanshan (Y. Yabe Sept. 16, 1905, TI). **Fujian**. (Z. X. Nu 463, KUN). **Hebei**. Xinglong (T. Nakai & al. Aug. 31, 1933, TI). **Henan**. Song Xian (Henan Linyeting 792, PE); Dengfeng Xian (Jincha 41, PE); Tongbai Xian (Jincha 1674, PE). **Hubei**. Jigong shan (L. H. Bailey s.n., photo in A–holotype of *Lespedeza distincta* L.H.Bailey); Shennongjia Forest District, 1200–1400 m (Batholomew & al. 1980 Sino-Amer. Exped. 565, KUN, NY); Wuchang, Loxiashan (H. H. Ching 9062, A); Enshih Xian (H. C. Chow 1792, E); Yichang (A. Henry 45, 739, 744, B400, 645, E); Yichang, Nan-to (A. Henry 2174, K-syntype of *Lespedeza ichangensis* Schindl.), Yichang (A. Henry 2920, A, E); locality unknown (A. Henry 6508, GH–holotype of *C. gracilis* Ricker, LE–isotype), loc. cit., 600m (H. J. Li 3162, KUN); Yangtze R. valley, Yichang gorge (G. Niederlein 74, A, isosyntype of *Lespedeza ichangensis* Schindl.); Yangtze R. valley, Mitan gorge (G. Niederlein 74a, A); locality unknown (R. C. Silvestri 1121, A); Scian Kin (P. C. Silvestri 4779, A); Western Hubei, Xingshan Xian, 3000–5000 ft. (E. H. Wilson 576,A, E, GH), N.S. of Yichang, 3600 ft. (E. H. Wilson 766, A, E, GH). **Hunan**. Lengshuidjiang, Tsi-djiang (Handel-Mazzetti 799, A); Yongshun Xian (B. Q. Zhong 1420, KUN). **Jiangsu**. Yixing Xian (W. Z. Fang 216, PE); Wuxi (I. Hwang s.n., TI); Kihshan, S. Nanjing (Y. L. Keng 1960, A); Zhenjiang (K. Kimura Sept.24,1934, KYO); Qi-Xiashan (P. P. Ling 130 NY); Liyang Xian (Liu, Deng & Huang 2595, PE); Nanjing (A. N. Stewad 2754, A, E); Fang-Chia Chi (F. T. Wang 2768, PE); locality unknown (Zhang 322, PE). **Jianxi**. Lu Shan (C. Leu 28, PE); Wuning Xian (H. K. Teng 376, PE). **Liaoning**. Chai He (T. Nakai & al. Aug.25,1933, TI). **Shaanxi**. Hwanglungshan (K. T. Fu F.3080, PE); Ningshen Xian, 1500 m (H. W. Kung 3146, PE); Nanwutaishan (T. N. Liou & al. 299, PE); Hu Xian (Y. Y. Pai 1256, PE); Mei Xian (Yellow River Exped. 335, PE). **Shandong**. locality unknown (C. Y. Chiao 3017, PE; C. Y. Chiao 3079, E; F. N. Meyer 240, A); Longdong (Yabe Sept.6,1925, TI). **Shanxi**. Ruicheng Xian (S. Y. Bao 1545, 1575, PE); Yuanqu Xian (S. Y. Bao 2298, PE); locality unknown (K. C. Kuan & Y. L. Chen 1020, 1939, PE;); Taiyuan (S. Omori 64, TI). **Sichuan**. Dujiangyan Municipality (formerly Guan Xian) (Boufford & Bartholomew 24003 & 24253 A, NY); Guan Xian (S. S. Chien 5377, A, E), loc. cit., 2000 ft. (W. P. Fang 1981, A, E); Pingwu Xian, Lungan-fu (W. P. Fang 4193, E); Maowen Xian (W. P. Fang 5512, A, E–isotype of *C. macrocarpa* subsp. *hengduanshanensis* C.J.Chen, W. P. Fang 5516, A, E); Kangding, Mt.Tsingcheng (W. P. Fang 19745, A); Tchen-keou-tin (M. P. Farges 1032, E; R. P. Farges s.n., A); Kangding (McLaren AD165, E); near Ta-tien (H. Smith 2268, A–holotype of *C. smithii* Ricker); Chongqing city, Beipei (G. Z. Wang 1030, PE–holotype of *C. macrocarpa* f.*lanceolata* P. Y. Fu); Kwang-yun Xian, 1000–1300 m (F. T. Wang 22578, A); Min valley, Mao-chow, 5000–6000 ft. (E. H. Wilson 4597, A); Wuxi Xian, 1800–1900 m (G. H. Yang 59379, KUN), loc. cit., 800 m (G. H. Yang 65223, KUN); Wushan Xian, 1200 m (G. H. Yang 65517, KUN); Fengjie Xian, 1320 m (Z. R. Zhang 25491, KUN). **Zhejiang**. Chusan (Fortune 42, BM–holotype of *Lespedeza ciliata* Benth.); Linan Xian, Changhua (X. Y. He 26602, PE); Mogan Shan (K. Kimura s.n., KYO); Ningbo (Macgregor s.n., A); Xitianmu Shan (H. Migo s.n., PE); Jiangshan Xian (J. X. Wang 1857, PE); Hangzhou (unknown collector 1292, PE); Linan Xian, Changhua (unknown collector 30349, 30537, PE); Tianmu Shan (unknown collector 31107, 31242, PE); Xitianmu Shan (unknown collector 31416, PE).

KOREA. North Kyongsang prov. Seongju-gun (T. Ishidoya & Chung Sept.13,1921, TI); locality unknown (unknown collector 3281, PE).

MONGOLIA. Nan-shan, appidum. Su-dshou (Martin s. n., K).

Cultivated in Italy. La Mortola Garden (C. Schneider s.n., A–holotype of *C. mortolana* Ricker); Cultivated in Japan. The Experimental Garden of the Biological Institute, Graduate School of Science, Tohoku University, grown from seeds originated from China (Y. Iokawa 5388, TUS).

Distribution. China (Anhui, Beijing, Gansu, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Shanxi, Sichuan and Zhejiang), Korea and southern Mongolia. (Fig. 41c)

22–2. *Campylotropis macrocarpa* (Bunge) Rehder var. **macrocarpa** f. **alba** (S.Y.Wang) Iokawa & H.Ohashi, **stat. nov**.

Campylotropis macrocarpa (Bunge) Rehder var. *alba* S.Y. Wang in Fl. Henan **2**: 401 (1988) [Type: China. Henan. Funiu Shan Mts., Longyuwan, Luanchuan Xian. In shrubs or open forest on mountain slope, alt.

1200 m. S. Y. Wang & Q. L. Chang 780356 (HEAC holo.), n. v.], **syn. nov**.

22–3. *Campylotropis macrocarpa* (Bunge) Rehder var. **hupehensis** (Pamp.) Iokawa & H.Ohashi, **comb. nov**. [Figs. 35B, 36a]

Lespedeza macrocarpa Bunge var. *hupehensis* Pamp. in Nuovo Giorn. Bot. Ital., n.s., 17: 399 (1910) [Type: China. Hubei. Silvestri 1123 (FI syn., n. v., photo in A), 1124, 1125, 1126, 1127 (syn., n. v.)].

Lespedeza giraldii Schindl. in Repert. Spec. Nov. Regni. Veg. **9**: 518 (1911) [Type: China. Shensi. Giraldi 601, 602, 604, 605, 607, 1560, 1561, 1566, 4126, 4128, 4130, 4132, 4145, 4147 (all B syn.), Honan. Schindler s. n. (Herb. Schindler syn.), n. v.].

Lespedeza glauca Schindl. in Repert. Spec. Nov. Regni. Veg. **9**: 520 (1911) [Type: China. Sichuan. Nanchuan. Bock & v. Rosthorn 1191 (B holo.), n. v.]; H.Lév. Cat. Ill. Alphab. Pl. Sen Tchouen 103 (1918).

Campylotropis giraldii (Schindl.) Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 340 (1912); Kanehi., Formosan Trees rev. ed. 293 (1936); E.Peter in Act. Hort. Gothob. **13**: 436 (1940); Fl. Illust. Pl. Prim. Sin. 543 (1955); H.L.Li, Woody Fl. Taiwan 341 (1963); T.C.Huang & H.Ohashi in Fl. Taiwan **3**: 193 (1977), & ed. 2, **3**: 208, pl. 94 (1993).

Campylotropis bodinieri Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 339 (1912) [Type: China. Guizhou. J. Laborde & E. Bodinier as "Bodinier" 2488, (LEMA holo., n. v.; E, K, A iso.)].

Campylotropis glauca (Schindl.) Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 340 (1912).

Lespedeza pseudomacrocarpa Hayata, Icon. Pl. Formos. **3**: 71, tab. 15 (1913) [Type: Taiwan. Toroku. Tonpozan. T. Kawakami 1289 (TAIF, n. v., photo in A)].

Lespedeza bodinieri (Schindl.) H.Lév., Fl. Kouy-Tchéou 236 (1914–15).

Campylotropis longepedunculata Ricker in J. Wash. Acad. Sci. **36**: 38 (1946) [Type: China. Kweichow. Lun-bing. Y. Tsiang 6108 (A holo.)].

Campylotropis macrocarpa (Bunge) Rehder var. *giraldii* (Schindl.) K.T.Fu ex P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 42 (1987), & in Fl. Reip. Pop. Sin. **41**: 116 (1995), **syn. nov**.

Campylotropis macrocarpa var. *giraldii* f. *giraldii* (Schindl.) P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 42 (1987), & in Fl. Reip. Pop. Sin. **41**: 116 (1995), **syn. nov**.

Campylotropis macrocarpa var. *giraldii* f. *hupehensis* (Pamp.) P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 43 (1987), & in Fl. Reip. Pop. Sin. **41**: 117 (1995), **syn. nov**.

Campylotropis macrocarpa var. *giraldii* f. *microphylla* K.T.Fu ex P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 43 (1987) [Type: China. Gansu. Z. B. Wang 15207 (WUG holo.; PE iso.), n. v.], & in Fl. Reip. Pop. Sin. **41**: 117 (1995), **syn. nov**.

Campylotropis macrocarpa var. *giraldii* f. *longepedunculata* (Ricker) P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 43 (1987), & in Fl. Reip. Pop. Sin. **41**: 117 (1995), **syn. nov**.

Lespedeza macrocarpa auct. non Bunge: Franch., Pl. David. 94 (1894); Forb. & Hemsl. in J. Linn. Soc. Bot. **23**: 182 (1887), p. p.; Diels in Bot. Jahrb. 29: 414 (1901), p. p.; Hayata, Materials Fl. Formosa 79 (1911).

Specimens examined: CHINA. **Beijing**. Bada Ling (I. Namikawa Sept. 9, 1934, KYO). **Gansu**. Tianshui, 1400 m (J. M. Liu 10233, KUN); Siku, 5000 ft. (R. Farrer & W. Purdom 105, E, KYO); Wu-ping near Siku (G. N. Potanin s.n. 19 Jun. 1885, 22 Jun. 1885, 28 Jun. 1885, 9 Jul. 1885, LE); Lower Tebbu county, 7000–7300 ft. (J. F. Rock 14652, A, E), Wantsang, 7000 ft. (J. F. Rock 14732, A, E, K, LE); Dangchang Xian, 2300 m (T. P. Wang 15207, PE–isotype of *C. macrocarpa* var. *giraldii* f. *microphylla* P.Y.Fu); Yanchang County, Gongjiagou (Y. M. Yuan 1097, A). **Guangdong**. Yu-yuen (S. P. Ko 52781, A); Lingnan, Fungwanhui (Lignan Univ. 12827, 12921, A); Fengkai (K. L. Shi 14750 TUS). **Guizhou**, Environs de Tsin-gay (Kouy-tcheou), Montague de Lion, 24 Oct. 1898. (J. Laborde & E. Bodinier 2488, A, E, K–isotype of *C. bodinieri* Schindl.); Environ de Kouy-yang, bois de la pagode de Lan-yo-chan. 19 Jun. 1899 (Bodinier 2488bis, E); Tsin-gai (J. Cavalerie 1194, E; J. Cavalerie 1242, E–paratype of *C. bodinieri* Schindl.); Jiangkou Xian, Shaoxiding, 500–650 m (Sino-Amer. Bot. Exped. 738, A); Lung-Bing, Tuyun, 400 m (Y. Tsiang 6108, A–holotype of *C. longepedunculata* Ricker); Yang-Long, Hsufeng (S. W. Teng 90556, A, KYO); Lungli (Y. Tsiang 8407, A–paratype of *C. longepedunculata* Ricker); Songtao, 440 m (T. P. Zhu 1461, KUN). **Hebei**. Zhuolu Xian (C. G.Yang 154, KUN). **Henan**. Lushi Xian, 1000 m (J. Q. Fu 378, KUN), loc. cit., 1100 m (J. Q. Fu 2436, KUN); Lushin, Lao Kiun Shan, 2000 m (J. Hers 1199, A). **Hubei**. Shenlungkai, 1300 m (K. S. Chow 76070, KYO); Jun Xian, 800 m (K. R. Liu 102, PE); Mt. Fansien, 1000 m (R. C. Silvestri 1123, photo in A–syntype of *Lespedeza macrocarpa* var. *hupehensis* Pamp.). **Shaanxi**. Xunyang Xian, 1500 m (P. Y. Li 10968, KUN); Lantian Xian, 1380 m (G. Y. Su 496, KUN); locality unknown (Xiao 225, KUN). **Sichuan**. Guangyuan Xian, 500–1000 m (T. P. Wang 19453, KUN); locality unknown (E. H. Wilson 3378, A); Wuxi Xian, 1000 m (G. H. Yang 65351, PE). **Taiwan**. Nantou Co., Lushan–Wushe, 1000–1500 m (S. F. Huang 1854, A, TAI), Tungpu (T. C. Huang 8567, TAI); Hualien Co. (T. C. Huang 9131*, T. C. Huang & S. F. Huang 9875*, 10181*, TUS); Taitung Co., Fuli (Huang & al. 16711 NY); Hualien Co. (T. Kajita 836*, 837*, TUS), Toroku, Tonpozan (T. Kawakami 1829, photo in A–isotype of *Lespedeza pseudomacrocarpa* Hayata); Pingtung (Kawakami & Mori s.n. TAI); Chiayi Co., Mt. Ali-shan (J. Murata & al. 19082 TI, TUS); Taichung Co., Kukuan (J.Murata & al. 30070 TI, TUS); Buli to Wushe, ca.1000 m (T. Namba & al. s.n., A); Hualien Co. (T. Nemoto 2387*, TUS); Taoyuan Co., Fuhsing-village (H. Ohashi & T. Nemoto 16811 A, TUS); Hualien Co., H. Ohashi & T. Nemoto 16951*, 17020*, H. Ohashi & al. 24566*, 24683*, TUS), Xincheng (J. Ohwi Apr.22,1933, KYO), Tabito (J. Ohwi Apr.23,1933, KYO), Panpien to Lonchien (T. Shimizu 11399, KYO); Nantou Co.,Tailuko (T. Shimizu & M. T. Kao 10444, KYO); Hualien Co., Batakan to Tabito (M. Tagawa 699, KYO), Tailuko to Heliu, 200–500 m (M. Tamura & al. 21784, E), Hualien Co., (Y. Tateishi & al. 15689*, 16131*, 16336*, TUS); Nantou Co. Tailuko (M. Tatewaki & S. Kitamura, Mar.16,1932); locality unknown (E. H. Wilson 11097, A).

Distribution. China (Gansu, Guangdong, Guizhou, Hebei, Henan, Hubei, Shaanxi, Shanxi, Sichuan and Taiwan). (Fig. 41c)

23. **Campylotropis macrostyla** (D.Don) Miq. in Fl. Ind. Bat. **1**: 230 (1855); Schindl. Repert. Spec. Nov. Regni. Veg. **11**: 344 (1912); Repert. Spec. Nov. Regni. Veg. Beih. **49**: 260 (1928), ut *C. macrostyla* (D.Don) Schindl.; Ali in Biologia **12**: 45 (1966); H.Ohashi in J. Jpn. Bot. **49**: 330 (1974), & in H.Hara & Williams, Enum. Fl. Pl. Nep. **2**: 109 (1979). [Figs. 36b, 37A]

Lespedeza eriocarpa DC. in Ann. Sci. Nat. (Paris) **4**: 102 (1825) [Type: Nepal. Wallich s. n. (G-DC holo., n. v.; BM, LINN iso., n. v.)]; in Prodr. **2**: 349 (1825), p. p., excl. syn. cit., non *Campylotropis eriocarpa* Schindl. (1912).

Crotalaria macrostyla D.Don, Prodr. Fl. Nep. 242 (1825) [Type: Pakistan, Sirinagur. Hamilton s.n. (BM, LINN)].

[*Oxyramphis macrostyla* (D.Don) Wall., Cat. no. 5348 (1831), comb. nud.]

[*Oxyramphis sericea* Grah. in Wall., Cat. no. 5349 (1831), nom. nud., p. p.].

Oxyramphis macrostyla (D.Don) Wall. ex Meisn., Pl. Vasc. Gen. Comment. 60 (1846).

Lespedeza macrostyla (D.Don) Baker ex Maxim. in Act. Hort. Petrop. **2**: 348 (1873), p. p., excl. lit. cit. Lindl. & specim. cit. Falconer no. 443; Baker in Hook.f., Fl. Brit. Ind. **2**: 143 (1876).; Prain in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. **66**: 376 (1897).

Campylotropis nepalensis Ricker in J. Wash. Acad. Sci. **36**: 39 (1946) [Type: Nepal: Chaumala. Bis Ram 59 (A holo.; BM iso.)].

A shrub or shrublet, usually ca. 100 cm high; young stems with dense patent or ascending yellowish-white hairs, glabrescent in the old part. Leaves with a minute rachis; rachis 0.5–3 mm long. Stipules 2–4 mm long, 0.8–1 mm wide. Petioles 0.5–3 cm long, densely ascending pubescent. Leaflets subcoriaceous, obdeltoid to obovate, retuse and mucronulate at the apex, cuneate to obtuse at the base, upper surface glabrous or sparsely pubescent, lower surface sparsely to densely ascending pubescent; terminal leaflets 0.9–2.2 cm long, 0.6–1.2 cm wide.

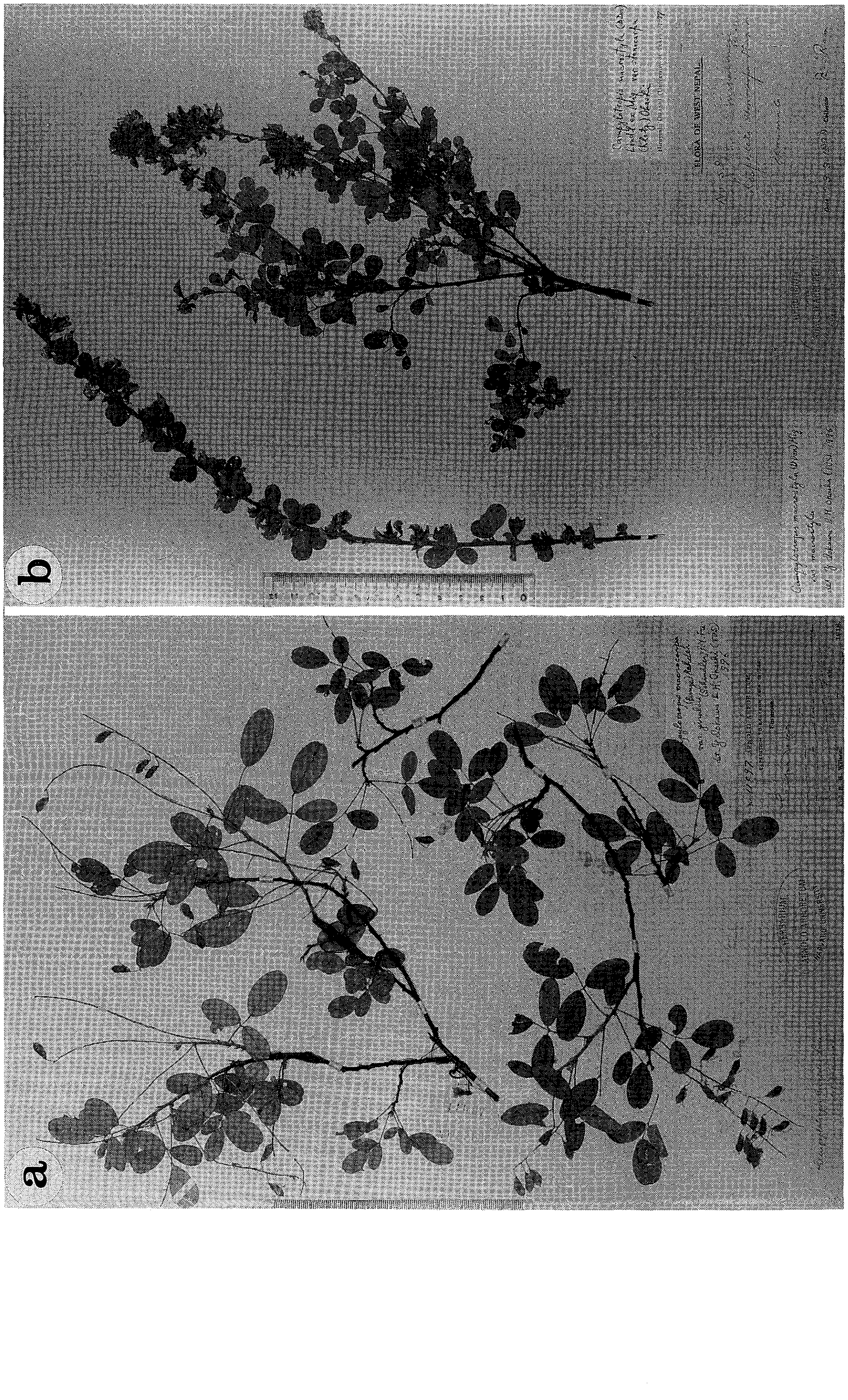

Fig. 36. a: *Campylotropis macrocarpa* (Bunge) Rehder var. *hupehensis* (Pamp.) Iokawa & H.Ohashi. (voucher specimen: Wilson 11097, A). b: *C. macrostyla* (D.Don) Miq. (BisRam 59, A).

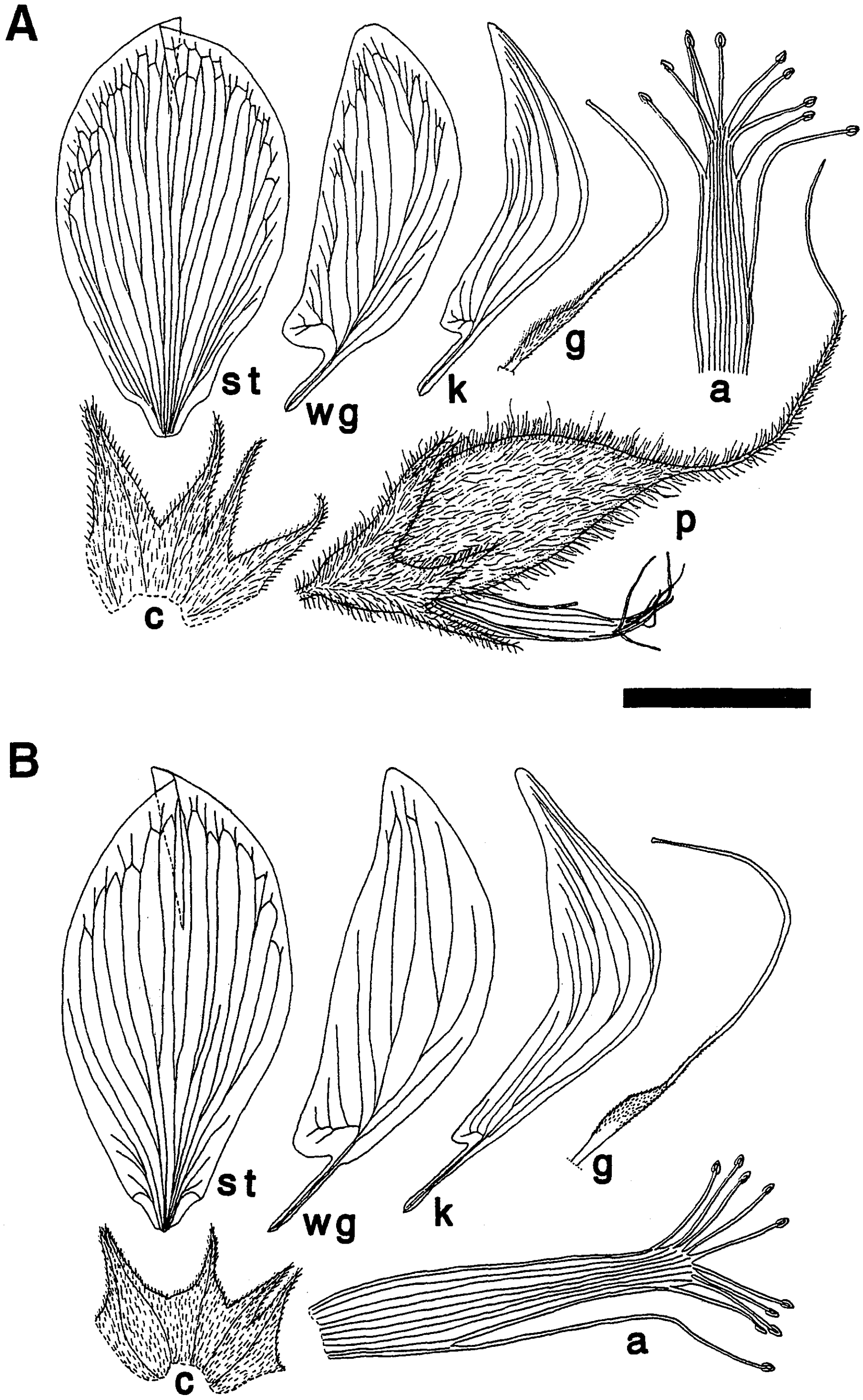

Fig. 37. Flower and pod of *Campylotropis macrostyla* (A. voucher specimen: Dutice 19793, E) and flower of *C. pauciflora* (B. Ching 24235, PE). a: androecium, c: calyx opened (outer surface), upper lobe in left, g: gynoecium, k: keel-petal, p: pod, st: standard, wg: wing. Scale bar = 5 mm.

Stipels abscent. Inflorescences 1–3.5 cm long, sometimes paniculate; rachis and pedicels densely ascending pubescent mixed with glandular hairs. Bracts 1.2–3 mm long, usually caducous before anthesis. Pedicels 3–9 mm long. Bracteoles 1–2.2 mm long. Calyx subdensely ascending pubescent mixed with glandular hairs; tube 1.5–2 mm long; lobes narrowly triangular, 2.5–3.3 mm long. Corolla purple; standard obovate, obtuse at the apex, 11–12 mm long (including ca. 1 mm long claw), 6–7 mm wide; wings 11–12 mm long (including ca. 2 mm long claw), 3.5–4.5 mm wide; keel-petals 12–14 mm long (including ca. 2 mm long claw). Androecia 8.5–9 mm long, vexillary stamen connate to staminal tube for about one-fourth of its length. Gynoecia 9.5–10 mm long; ovary narrowly ovate, ascending short hairy, 2–2.5 mm long; style 7–8 mm long. Pods obliquely ovate to oblong, acute at the apex with filamentous style, with ascending whitish hairs, 9–10 mm long, 3.5–4.5 mm wide.

Specimens examined: INDIA. Jaunsar, 3000–4000 ft. (Duttice 19793, E); Budire (W. Watson s.n., E, on same sheet as Watson, Mar.28 = *C. stenocarpa*).

NEPAL. Chanmala, (Bis Ram 59, A–holotype of *C. nepalensis* Ricker, BM isotype); Doti, 700 m (J. F. Dobremez 1900, BM); Bheri-Sangi Khola, 550 m (J. F. Dobremez 2552, TI); Upper Gangetic Plain, (Juayat s.n., E); Kuepani, Bheri River, 3000 ft. (O. Polunin & al. 3800, BM, TI); Kali, Nr. Baglung, 2500 ft. (Stainton & al. 2516, BM, TI); Gandak, between Kusma and Baglung, 3000 ft. (Stainton & al. 574, BM, TI), 2500 ft. (Stainton & al. 9236, BM, TI).

Himalayas. 2000–4000 ft. (J. D. Hooker & T. Thomson s.n., A); locality unknown (Wall.,Cat. 5348, 5349, K-W).

Distribution. Central and western Nepal, India (Uttar Pradesh and Himachal Pradesh) and Pakistan (Kashmir). (Fig. 41d)

This species is similar to *Campylotropis stenocarpa* in having small obdeltoid leaflets, flowers with long calyx-lobes and pods with a persistent style, but the latter has the ovate persistent bracts (vs. narrowly ovate and early deciduous in *C. macrosyla*) and the oblong pods with a hardened hook-like style (vs. ovate to oblong pods with a filamentous style in *C. macrosyla*). These are good chracteristics for distinguishing *C. stenocarpa* from *C. macrostyla*.

24. **Campylotropis pauciflora** C.J.Chen in Acta Bot. Yunnan. **10**: 433 (1988) [Type: China. Yunnan. Xingwu, Heqing, alt. 2300 m. R. C. Ching 24235 (PE holo.)]. [Figs. 37B, 38a]

A shrub, usually ca. 100 cm high; young stems subdesely with appressed short hairs. Leaves with a distinct rachis; rachis 2–5 mm long. Stipules 2–6 mm long, 0.4–0.8 mm wide. Petioles 0.8–1.6 cm long, ascending or patent pubescent. Leaflets chartaceous, obovate, retuse and mucronulate at the apex, obtuse at the base, upper surface glabrous, lower surface sparsely appressed short hairy; terminal leaflets 1.3–2.4 cm long, 0.9–1.5 cm wide. Stipels absent. Inflorescences few-flowered, 0.6–1.4 cm long; rachis and pedicels sparsely appressed short hairy. Bracts 1–1.2 mm long. Pedicels capillaceous, 20–22 mm long. Bracteoles ca. 1 mm long, persistent in anthesis. Calyx subdensely appressed short hairy; tube 2–2.3 mm long; lobes narrowly triangular, 2–2.3 mm long. Corolla blue; standard elliptic, obtuse at the apex, 11–12.5 mm long (including ca. 1 mm long claw), 5–6 mm wide; wings 11–12.5 mm long (including ca. 2.5 mm long claw), 3.5–4 mm wide; keel-petals 15–17 mm long (including ca. 2.5 mm long claw). Androecia 12–12.5 mm long, vexillary stamen connate to staminal tube for about one-sixth of its length. Gynoecia 13.5–14 mm long; ovary narrowly ovate, appressed short hairy, ca. 3 mm long; style ca. 10 mm long. Pods obliquely obovate, acute at the apex, appressed short hairy.

Specimens examined: CHINA. **Yunnan**. Heqing Xian, Wingwu, 2300 m (R. C. Ching 24235, PE–holotype, isotype).

Distribution. China (Yunnan). (Fig. 41e)

This species is known only the type specimen. It resembles *Campylotropis capillipes* especially in the shape and hairiness of the leaves and stems. But *C. capillipes* has much shorter pedicels (less than 12 mm long claw), more densely inflorescences (usually composed of more than several flowers).

25. **Campylotropis pinetorum** (Kurz) Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 429 (1912)., & **20**: 285 (1924); H.Ohashi in J. Jpn. Bot. **49**: 11 (1974); C.Y.Wu & al., Index Fl. Yunnan. **1**: 575 (1984); P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 50 (1987); Thuân in Fl. Camb. Laos Viêt. **23**: 147 (1987), excl. *Lespedeza tomentosa* Sieb. ex Maxim.; P.Y.Fu in Fl. Reip. Pop. Sin. **41**: 124 (1995).

Lespedeza pinetorum Kurz in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. **42**: 230 (1873) [Type: Myanmar (Burma). Martaban. Kurz s.n. (E holo.), n. v.], & Forest Fl. Brit. Bruma **1**: 381 (1877); Baker in Hook.f., Fl. Brit. Ind. **2**: 145 (1876); Prain in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. **66**: 375 (1897); Gagnep. in Lecomte, Fl. Gén. Indoch. **2**: 524 (1920), p. p., excl. specim. sinens.

[Figs. 38b, 39, 40A]

Lespedeza velutina auct. non Dunn (1901): Gagnep., l. c. 523 (1920), p. p., excl. specim. sinens.

A shrub, usually ca. 100–200 cm high; branches velutinous. Leaves with a distinct rachis; rachis 3–10 mm long. Stipules 4–6 mm long, 1.5–2 mm wide. Petioles 1–5 cm long, densely velutinous. Leaflets coriaceous, ovate to elliptic or oblong to narrowly ovate, acute, obtuse or rounded at the apex, obtuse or rounded at the base; terminal leaflets 2–13 cm long, 1–6 cm wide. Stipels absent. Inflorescences 2–10 cm long, densely flowered; rachis velutinous mixed with dense glandular hairs. Bracts (2–)3.5–5 mm long, caducous before anthesis. Pedicels 1.5–4 mm long, densely pubescent mixed with glandular hairs. Bracteoles 1–3 mm long. Calyx subdensely ascending short hairy mixed with glandular hairs; tube 1.7–2.5 mm long; lobes narrowly triangular, 3–4.5 mm long, upper lobe distinctly 2-toothed. Corolla pinkish white; standard elliptic, obtuse at the apex, 9–10.5 mm long (including ca. 1.7 mm long claw), 4–6 mm wide; wings 7.5–9 mm long (including 2–2.5 mm long claw), 2.5–3.2 mm wide; keel-petals inflexed shallowly at a obtuse angle, 10.5–12 mm long (including ca. 2.5 mm long claw). Androecia ca. 10 mm long, vexillary stamen connate to staminal tube for about one-fifth to two-third of its length. Gynoecia ca. 10.2 mm long; ovary narrowly ovate, short hairy, ca. 2.3 mm long; style ca. 7.7 mm long. Pods obliquely elliptic to narrowly obovate, acute at the apex, ascending short hairy sometimes mixed with glandular hairs, 6–6.5 mm long, 3–4 mm wide. Seeds obliquely oblong, purplish-brown, 3.2–4 × 1.5–2 mm in size.

Distribution. China (Guangxi, Guizhou and Yunnan), Laos, Myanmar (Burma), Thailand and Vietnam. (Fig. 41f)

This species is characteristic in having densely flowered inflorescences with rather smaller flowers (9–10.5 mm long), calyx covered with dense ascending hairs and many glandular hairs, and long calyx-lobes.

Thuân (1987) cited *Lespedeza tomentosa* Sieb. ex Maxim. as a synonym of *C. pinetorum*, but the former bears every typical characters of *Lespedeza* and is clearly distinguishable from the latter.

Campylotropis pinetorum is divided into three subspecies in accordance with morphology and separate areas of distribution. Subsp. *pinetorum* does not occur in China, while subsp. *velutina* is confined to China (Fig. 25). Subsp. *albopubescens* is based on a single specimen and is similar to subsp. *pinetorum* in the shape of leaflets, but clearly distinct in hairiness and in distribution. It occurs in north of the area of subsp. *pinetorum* and south of the area of subsp. *velutina*.

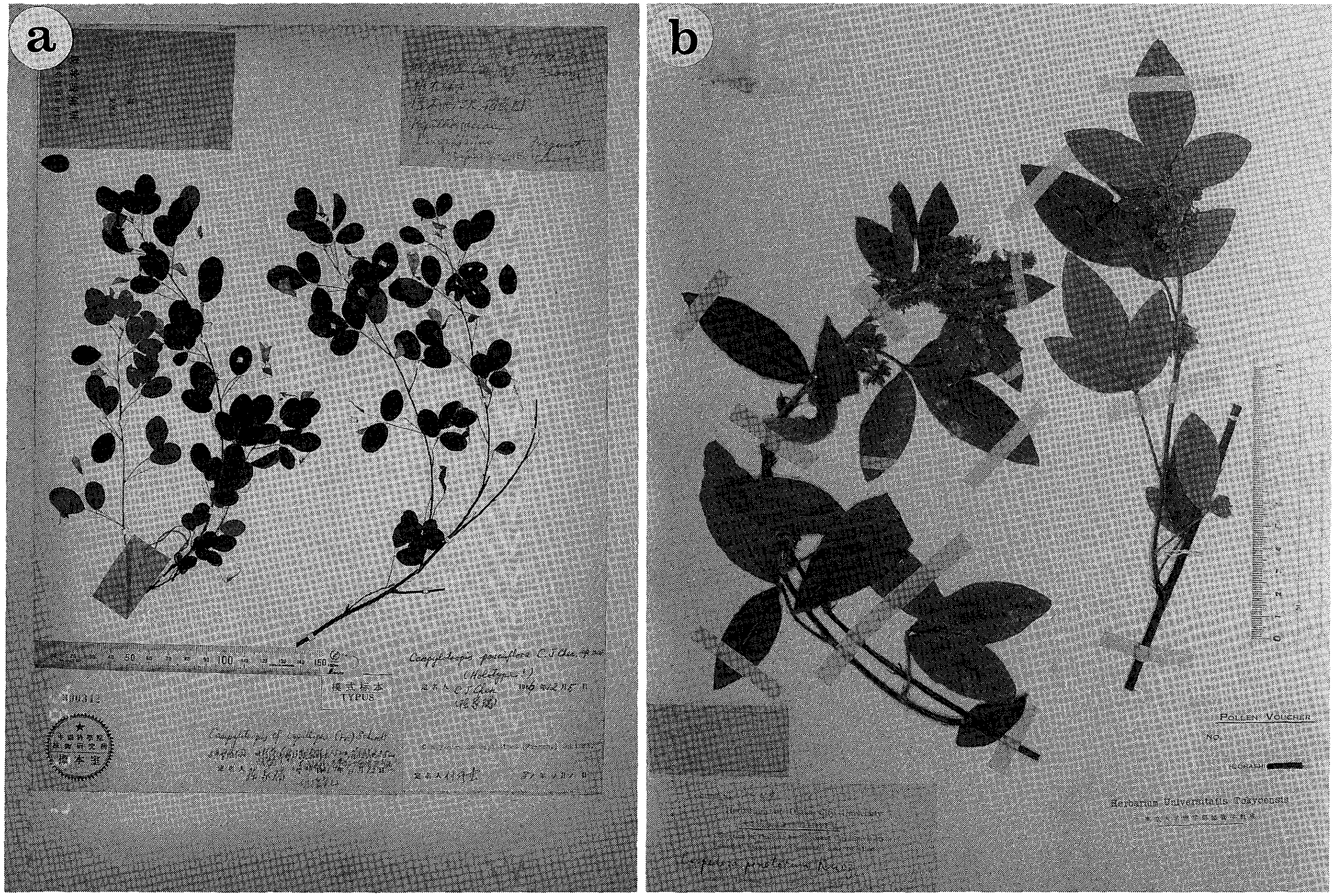
a
b
模式标本
TYPUS
Campylotropis pauciflora C.J.Chen
POLLEN VOUCHER
NO.
Herbarium Universitatis Tokyoensis

Fig. 38. a: *Campylotropis pauciflora* C.J.Chen (voucher specimen: Ching 24235, PE). b: *C. pinetorum* (Kurz) Schindl. subsp. *pinetorum* (Ogawa et al. 212-49, TI).

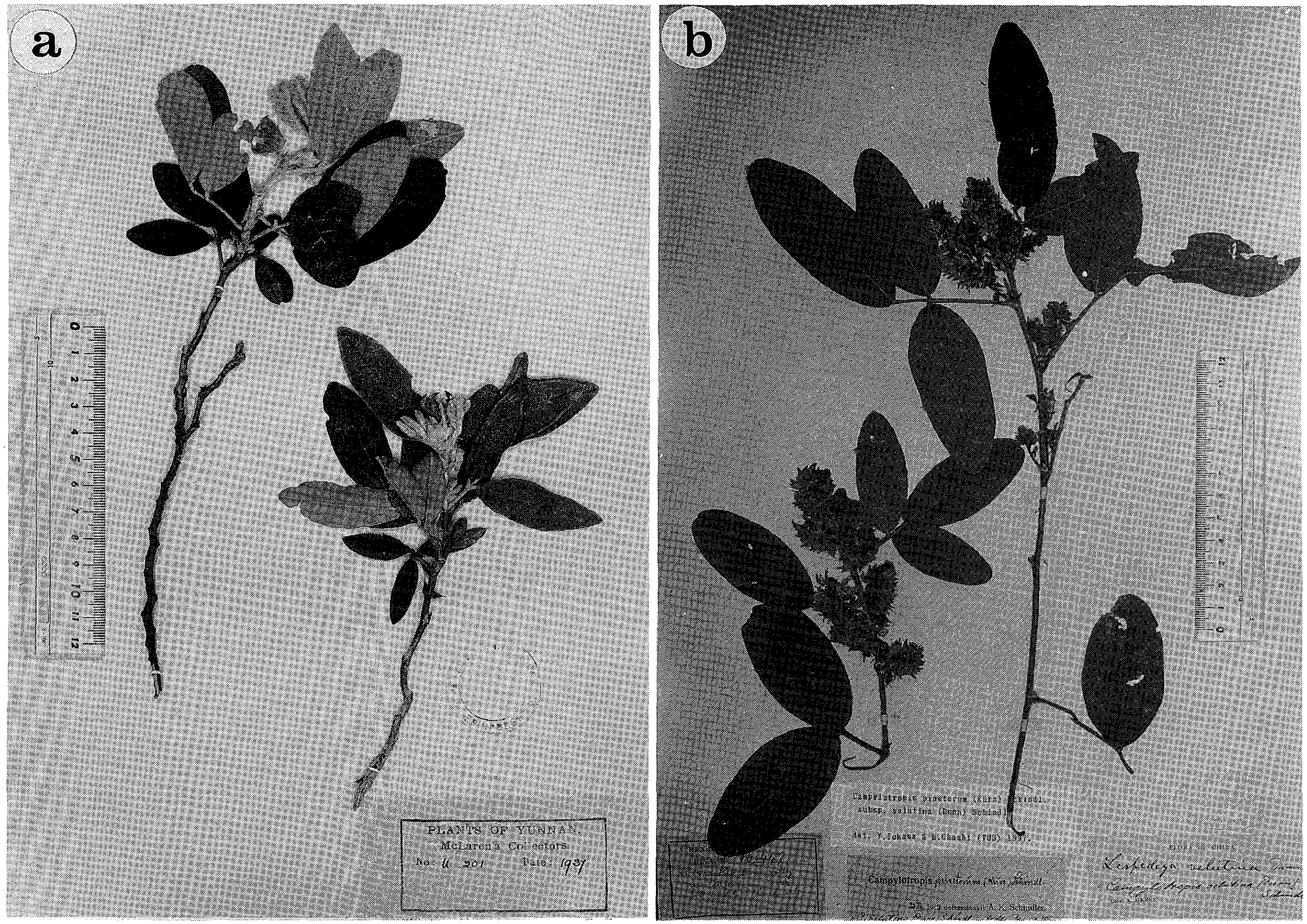

Fig. 39. a: *Campylotropis pinetorum* (Kurz) Schindl. subsp. *albopubescens* (Iokawa & H.Ohashi) Iokawa & H.Ohashi (voucher specimen: McLaren's collectors u201, E). b: *C. pinetorum* (Kurz) Schindl. subsp. *velutina* (Dunn) H.Ohashi (Henry 10447, A).

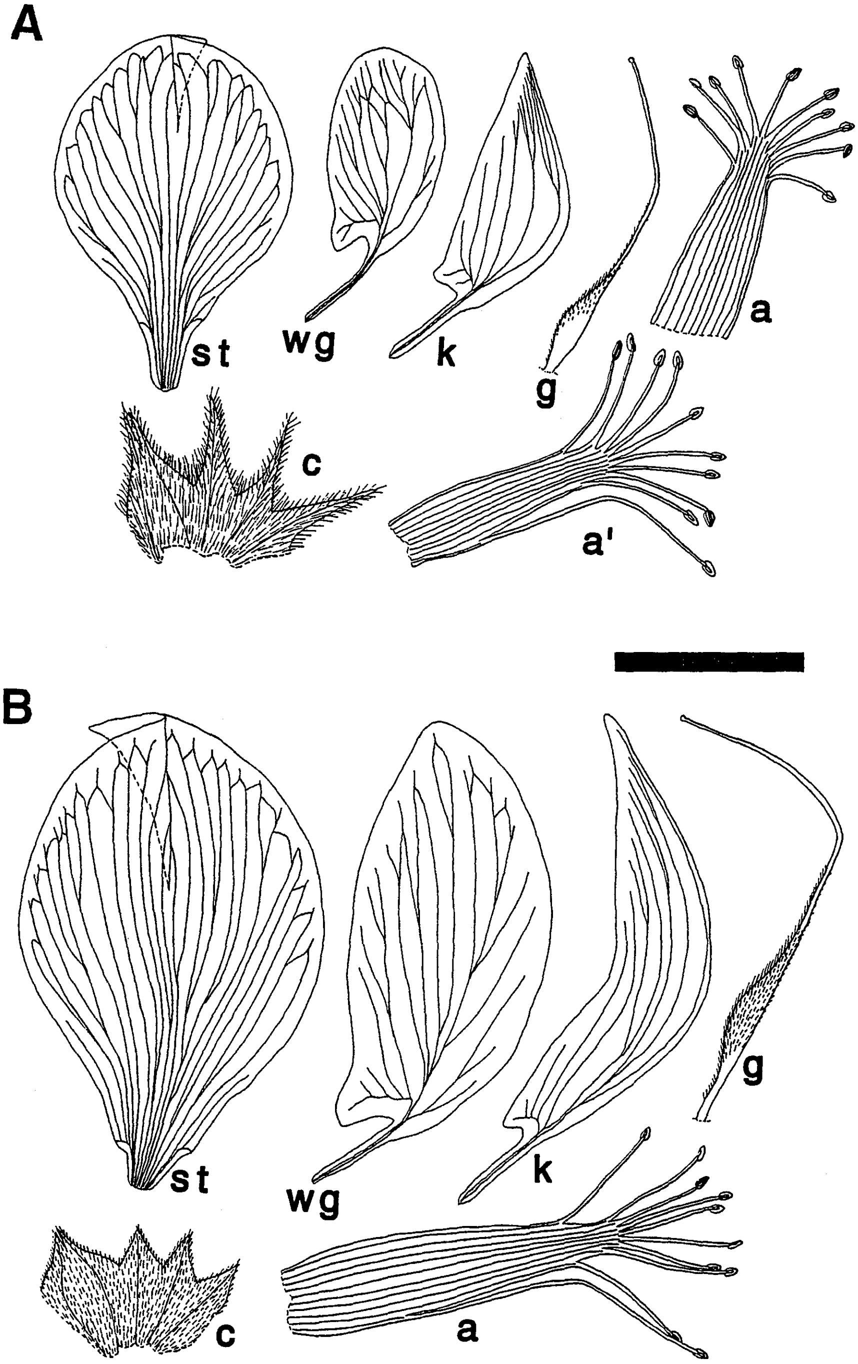

Fig. 40. Flowers of *Campylotropis pinetorum* (Kurz) Schindl. subsp. *pinetorum* (A. a´: subsp. *velutina*, voucher specimen: Forrest 6, E; others: subsp. *pinetorum*, Iokawa 5391, TUS) and *C. polyantha* var. *polyantha* f. *polyantha* (B. Iokawa 5284, TUS). a, a´: androecium, c: calyx opened (outer surface), upper lobe in left, g: gynoecium, k: keel-petal, p: pod, st: standard, wg: wing. Scale bar = 5 mm.

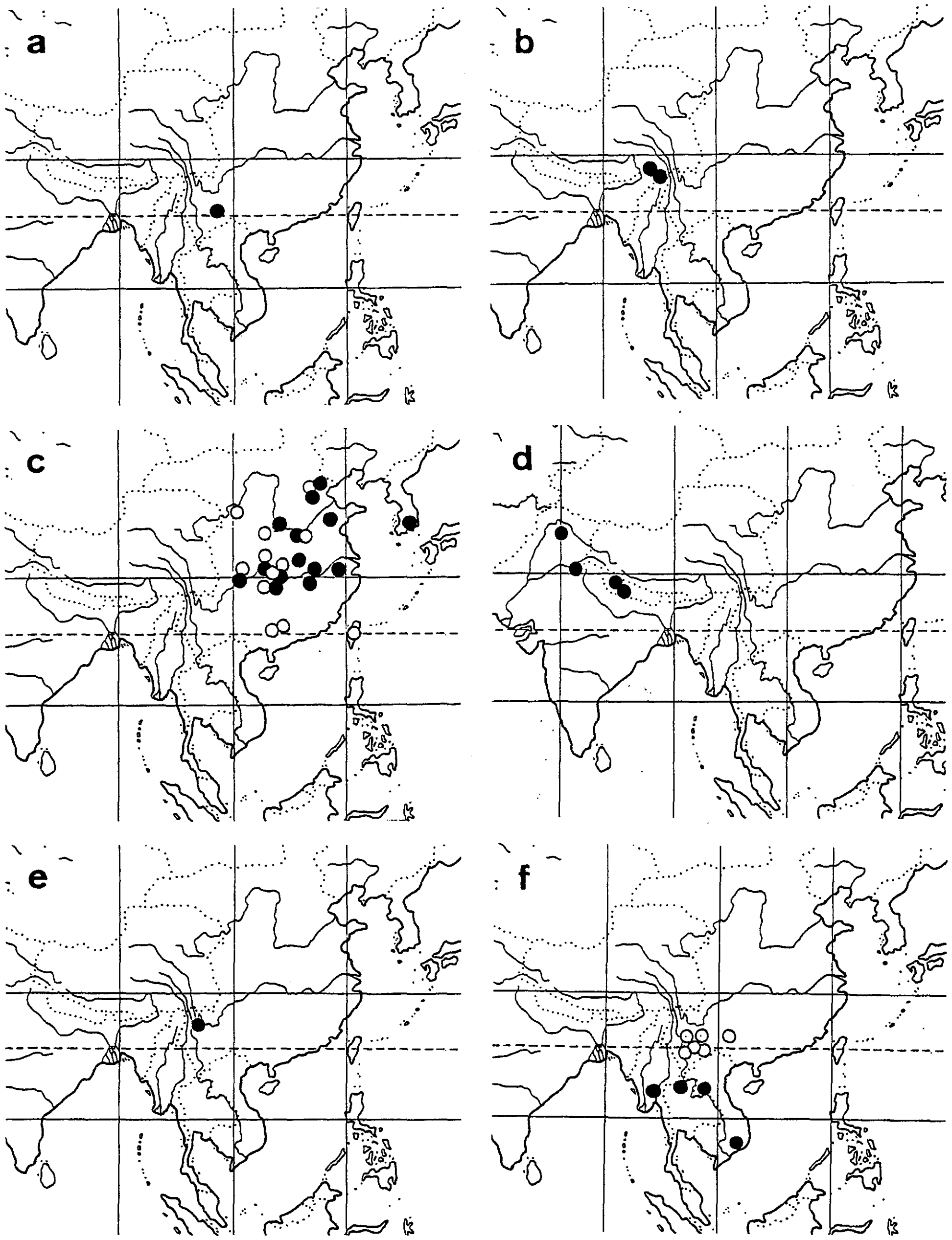

Fig. 41. Distribution of *Campylotropis* (IV). a: *C. latifolia*, b: *C. luhitensis*, c: *C. macrocarpa* (●: var. *macrocarpa*, ○: var. *hupehensis*), d: *C. macrostyla*, e: *C. pauciflora*, f: *C. pinetorum* (●: subsp. *pinetorum*, ○: subsp. *velutina*).

Key to the subspecies of *C. pinetorum*

1. Leaflets ovate to elliptic, acute at the apex
    2. Branches, inflorescences rachis, calyces and lower surface of leaflets tawny velutinous....................subsp. *pinetorum*
    2. Branches, inflorescences rachis, calyces and both surfaces of leaflets densely white pubescent...subsp. *albopubescens*
1. Leaflets oblong to narrowly ovate, rounded or obtuse at the apex; (branches, inflorescences rachis, calyces and lower surface of leaflets tawny velutinous) ....subsp. *velutina*

25–1. *Campylotropis pinetorum* (Kurz) Schindl. subsp. **pinetorum** [Figs. 38b, 40A]

Specimens examined: THAILAND. Loei, Wang Sephung (D.Bimpheng 995, TI); Kawng Sang, 1500 m (B. Hansen & al. 10877, TI); Doi Chong, 1650 m (B. Hansen & T. Smitinand 12620, TI); Kao kuacley, 1000–1200 m (A. F. G. Kerr 20063, BM); Chiang Mai, Jawng Tong, 2050 m (J. F. Maxwell 89-1614, MO); Doi Suthep, 800–1000 m (H. Ogawa & K. Yoda 212-49, TI); Loei, Pha Ruea, 1000 m (T. Smitinand 10153, TI); Doi Suthep, 1500 m (T. Sorensen & al. 891, A).

Cultivated in Japan. The Experimental Garden of the Biological Institute, Graduate School of Science, Tohoku University, originated from Thailand, Doi Suthep, collected by Y. Tateishi & T. Kurosawa (Y. Iokawa 5391, TUS).

Distribution. Laos, Myanmar (Burma), Thailand and Vietnam. (Fig. 41f)

25–2. *Campylotropis pinetorum* (Kurz) Schindl. subsp. **albopubescens** (Iokawa & H.Ohashi) Iokawa & H.Ohashi, **stat. nov**. [Fig. 39a]

Campylotropis pinetorum (Kurz) Schindl. var. *albopubescens* Iokawa & H.Ohashi in J. Jpn. Bot. **72**: 141 (1997). [Type: China. Yunnan. McLaren's collectors 201 (E holo., photo in TUS)].

Specimen examined: CHINA. **Yunnan**. Mt. Lo Shuieh (McLaren's collectors u201, E–holotype, photo in TUS).

Distribution. China (Yunnan).

25–3. *Campylotropis pinetorum* (Kurz) Schindl. subsp. **velutina** (Dunn) H.Ohashi in J. Jpn. Bot. **49**: 43 (1974); C.Y.Wu & al., Index Fl. Yunnan. **1**: 575 (1984); P.Y.Fu in Bull. Bot. Res., Harbin **7**(4): 51 (1987), & in Fl. Reip. Pop. Sin. **41**: 126 (1995). [Figs. 39b, 40A]

Lespedeza velutina Dunn in Hook., Icon. Pl. 4 ser. **7**: t. 2700 (1901) [Type: China. Yunnan. A. Henry 10447 (K holo.; A, E, MO iso.)]; H.Lév., Cat. Pl. Yun-Nan 159 (1916); Gagnep. in Lecomte, Fl. Gén. Indoch. **2**: 523 (1920), quoad syn. cit. Dunn et specim. sinens., cet. excl.

Campylotropis pinetorum (Kurz) Schindl. in Repert. Spec. Nov. Regni. Veg. **11**: 429 (1912), p. p., quoad. specim. sinens.

Millettia cavaleriei H.Lév., Fl. Kouy-Tchéou 238 (1914) [Type: China. Guizhou. Lo-kouen. J. Cavalerie 2754 (E holo.; TI iso.)]; Rehder in J. Arn. Arb. **13**: 329 (1932), pro syn.

Lespedeza pinetorum auct. non Kurz: H. Lév., Cat. Pl. Yun-Nan 158 (1916); Gagnep. in Lecomte, Fl. Gén. Indoch. **2**: 524 (1920), p. p., quoad specim. sinens.

Campylotropis velutina (Dunn) Schindl. in Repert. Spec. Nov. Regni. Veg. **20**: 286 (1924), & in Hand.-Mazz., Symb. Sin. **7**: 574 (1933); Rehder in J. Arn. Arb. **13**: 329 (1932); E.Peter in Act. Hort. Gothob. **13**: 438 (1940); Fl. Illust. Pl. Prim. Sin. 537, fig. 532 (1955).

Specimens examined: CHINA. **Guizhou**. locality unknown (J. Cavalerie 1406?, E); Lo-kouen (J. Cavalerie 2754, E–holotype of *Millettia cavaleriei* H. Lév., TI–Isotype); Lofan (J. Cavalerie 3483, E; 3683, E); locality unknown, 800 m (Guizhou Exped. 1416, KUN); Luodian Xian, 650 m (Qiannan Exped. 538, KUN). **Yunnan**. Sze-tai-po, Lou-chun-shan, 1300–1500 m (K. M. Feng 13888, A); Tzuhsiang-fu, 8000–9000 ft. (G. Forrest 6, E); Mengzi, 4000 ft. (A. Henry 10398A, A), loc. cit., 4600 ft. (A. Henry 10447A, E, K, LE); Red river valley, near Man-pan, 3000 ft. (A. Henry 10447, K–holotype of *Lespedeza velutina* Dunn, A, E, MO-isotype); Linan, Szemao, 4500 ft. (A. Henry 11590A, 11590B, 11590C, A, E, LE, MO); Lunan Xian (K. Z. Hou 74324, MO; 74396, MO); Ridges beyond Muang Hai (J. F. Rock 2470, A); Ssiu kia ton,

1400 m (C. Scheider 21, A); Lung-ling Xian, 1800 m (H. T. Tsai 55612, A); locality unknown (H. T. Tsai 55851, A); Lu-se, 1750 m (H. T. Tsai 56799, A); Shunning Xian, 2800 m (C. W. Wang 71826, A).

Distribution. China (Guangxi, Guizhou and Yunnan). (Fig. 41f)

五百川　裕[a]，大橋広好[b]：マメ科ハナハギ属の分類学的研究 II

本論文では種の順番は種形容語のアルファベット順となっている．前報（本誌**77**: 179–222）に引き続き，分類群ごとの解説のうち13. *Campylotropis fulva* Schindl. から25. *C. pinetorum* (Kurz) Schindl. までの13種について取り扱った．ここではそのいくつかについて解説を加えたい．16. *C. harmsii* Schindl. は中国雲南省南部とタイ北部に分布する．上部の葉では葉柄が短く頂小葉が円形から横楕円形となる傾向がある．一方，下部の葉では明らかな葉柄をもち頂小葉が倒卵形である．このため *C. harmsii* の葉は形態の異る二形性を示す特徴がある．本種のタイ産の標本は雲南省のものと比べて全体に多毛で，葉表にまで毛が散生する．しかし，この形態的差異がどの程度分布と対応するかは，今後より多くの産地の標本で検討する必要がある．17. *C. henryi* (Schindl.) Schindl. は，中国南西部（貴州省，雲南省，広西壮族自治区）の他に，インドシナ半島のラオスとタイからも記録されていたが，インドシナ半島の証拠標本を検討した結果，9. *C. decora* (Kurz) Schindl. をこの種と誤同定したものであることがわかった．両種は花序や果実などが類似しているが，前者は短圧毛が散生し4陵が顕著な若枝を持ち，しばしば葉柄に翼が発達するのに対して，後者は斜上または開出する短毛が密生する若枝を持ち，葉柄に翼は発達しない点などで識別できる．22. *C. macrocarpa* (Bunge) Rehder（ハナハギ）は属のタイプ種であり，中国，モンゴル，朝鮮半島の温帯に広く分布し，属内で最も広い分布域を持つ．そのため果実や葉の大きさと形，毛の量などの形質に基づいて，これまでに多くの近縁種と，変種，品種のランクで多くの種内分類群が記載されている．しかし，分布域全体にわたる多くの標本で検討すると，それらの形質には幅広い変異があり，連続的で地域的なまとまりも見られない．本研究では識別形質が明確な次の1変種1品種のみを認め，その他は異名として整理した．新組合せとして *C. macrocarpa* var. *hupehensis* (Pamp.) Iokawa & H.Ohashi，新ランクとして *C. macrocarpa* var. *macrocarpa* f. *alba* (S.Y.Wang) Iokawa & H.Ohashi である．変種 var. *hupehensis* は果実全体が有毛となるもので，果実側面が無毛である母変種と広く重なる分布域を持つものの，より南にまで分布しており，貴州省，広東省，台湾ではこの変種のみが分布する．白花品種 f. *alba* は河南省から報告されている．*C. macrocarpa* は中国南西部（四川省，貴州省，雲南省，西蔵自治区東部）では，花序や果実などの形態が類似する26. *C. polyantha* (Franch.) Schindl. と，しばしば同定の混乱がみられるが，側小葉基部の小托葉に注目すると，*C. polyantha* は全ての葉で小托葉を必ず持つため，小托葉を持たないか，または痕跡的にしか持たない *C. macrocarpa* とは容易に識別できる．両種の分布を再検討すると，雲南省と西蔵自治区東部には *C. macrocarpa* は分布せず *C. polyantha* が広く分布しており，四川省と貴州省で両種の分布域が接していることが明らかとなった．25. *C. pinetorum* (Kurz) Schindl. は，中国南西部（貴州省，雲南省，広西壮族自治区）からインドシナ半島のベトナム，ラオス，タイ，ミャンマーにかけて広く分布する種である．分布と対応した葉の形態と毛の性質の違いに基づき，種内に2亜種を認めた．基本種である subsp. *pinetorum* はインドシナ半島に分布し，小葉は卵形から楕円形で鋭頭であり，植物体が褐色のビロード状の毛で被われる．これに対して，subsp. *velutina* (Dunn) H.Ohashi は中国南西部に分布し，長楕円形から狭卵形で円頭から鈍頭の葉を持ち，植物体が褐色のビロード状の毛で被われる．subsp. *albopubescens* (Iokawa & H.Ohashi) Iokawa & H.Ohashi は中国雲南省の一部に分布し，楕円形で鋭頭の葉を持ち，植物体が白軟毛で密に被われる．

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